THE BUILDER

Incorporating ARCHITECTURE & THE BRITISH ARCHITECT

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NEWS SUMMARY

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STANDARD UNITS OF CONCRETE CONSTRUCTION are to be used for a group of new churches at Coventry which have been designed by Mr. Basil Spence. p. 1047

THE FEDERATION OF ASSOCIATIONS OF SPECIALISTS AND SUB-CONTRACTORS has drawn the attention of the Minister for Works to the need for "one standard form of building contract, linked with one standard sub-contract." p. 1061

THE VICE-CHANCELLOR OF SHEFFIELD UNIVERSITY has spoken of the need of developing an "academic quarter" in the city. p. 1062

"A NEGOTIATED TENDER costs the client 5 per cent. more than a tender contract in conditions which are generally favourable to tendering," Sir Thomas Bennett has told the RICS Junior Organisation. p. 1064

BRICK-FACED FRAME CONSTRUCTION, which made its first appearance in Britain on the Canadian Government stand at the Building Exhibition, is described. The LCC has sent an officer to Canada to study the subject. p. 1067

THE PLACING OF SUB-CONTRACTS

ELEVEN years ago the Simon Committee on the placing and management of contracts observed that "on the whole, technical developments in building science have outstripped architectural and building organisation." That statement is probably as true to-day as it was then, and it is incumbent upon the building industry to find a solution to this problem. One of the most important aspects of this problem is the growth of sub-contracting: on any large contract to-day between 50 and 75 per cent. of the work is likely to be sub-contracted, and this fact gives rise to a large number of difficulties beginning at the design stage and continuing throughout the execution and completion of the whole building project.

Broadly speaking, it might be said that there are two ways of dealing with these difficulties. One method would be to devise a new pattern of building organisation in which the architect, the general contractor and the various specialist contractors would work together on an entirely different basis from that which has so far prevailed. The other method is to continue what may be called the conventional relationship, but to render it a good deal more efficient than it is at present. Sir Thomas Bennett, in his recent paper on tendering procedure read to the Junior Organisation of the RICS, spoke emphatically in favour of the latter course. The key to Sir Thomas's views is to be found in his conviction that competitive tendering provides the only satisfactory basis for cheap and efficient building in the majority of cases. To quote his own words: "In spite of criticism of the method, no alternative of general application has so far been produced, and it would be safe to say that the alternatives used of negotiated tender, target and fixed fee contracts would all be unworkable if they were not subject to the constant correction of the tender as we know it."

In holding this opinion, Sir Thomas Bennett undoubtedly has the support of most people who have studied this problem. It was certainly the view of the Simon Committee (of which Sir Thomas was a distinguished member) and it was clearly enough the view also of the more recent Robertson Committee. In these circumstances, it is probably true to say that the most profitable line of advance for the industry is to continue with competitive tendering and to seek improved and more efficient relationships within that framework. One valuable reform would be the universal adoption of selective tendering for both general and sub-contracts, and we are glad that Sir Thomas has added his support to this proposal.

The adoption of selective tendering alone, however, will not be sufficient to achieve the more efficient relationships which are so necessary. In particular, care must be taken with the placing of sub-contract work. Sir Thomas Bennett makes a number of useful suggestions in this connection, including the proposal that the conditions of the main contract should be incorporated in the invitations to tender for sub-contracts. Sir Thomas did not elaborate this point—perhaps he will do so on some future occasion—but it was, no doubt, in his mind that the sub-contractor ought at the very start to be given such basic information as the completion date for the main contract. Friction can very easily arise if the sub-contractor is informed of

the main contractor's completion date only after his tender has been accepted. It would be a logical extension of this principle to incorporate the conditions of the main contract in the formal sub-contract. The RIBA Standard Form of Sub-Contract does make some provision for this, but the relevant clause is not well worded, and the appropriate bodies might well consider strengthening the Standard Form.

Sir Thomas Bennett also suggests that the invitation to tender should clearly set out the responsibilities of the main contractor and the sub-contractor *vis-à-vis* each other in regard to such matters as use of scaffolding, supply of water, delivery and storage of materials. Uncertainty on these matters has undoubtedly been the cause of friction in the past, and can only result in tenders being higher than they would otherwise be. Here, again, it would be logical to deal with these matters in the formal sub-contract.

The adoption of Sir Thomas's suggestions in practice would, no doubt, mean more work in the pre-tender stage of a building project, but it would reap handsome dividends in more efficient working, better service to the client and lower costs.

WORK-STUDY

IT is one aspect of life to-day that commonsense is at a discount unless decked out in new clothes. Thus few people trust themselves to advice given by the light of nature unless it is communicated under the name of psychology. Yet psychology (though not psychiatry) is nothing much more than the good, understanding advice that most people with the right kind of understanding parents absorbed with their nursery rice pudding. What name shall we give to-day to management?

These thoughts are provoked by the Conference held last week by the LMBA in conjunction with the British Institute of Management when members were addressed on the nature and applications of Work Study. Work study (which used to be known as Time and Motion study) is defined as a tool, or technique, of management involving the analytical study of operations for one or both of the following purposes:

1. The determination of optimum methods and layout of work, including gang sizes, correct equipment, disposition of materials and equipment, etc.;

2. The measurement of the work content of operations in order to establish factors for planning data, incentive targets and cost control.

Thus the question arises: Is work study only a new name for good management? Many will think that it may be, and feel inclined to brush the subject aside as being nothing more than a new sauce garnishing yesterday's cold meat. But others will wish to look further into the subject, the more especially as some of the large building firms whose names have long been synonymous with efficient management have found efficiency very greatly improved as a result of appraisal of methods and processes on a scientific basis.

At the conference, the main speakers were careful to sound a warning that too much is not to be expected too quickly by those who adopt work study methods in their businesses. Not all building work or building processes lend themselves, it seems, to such scientific appraisal, but certain operations, especially repetitive work and processes such as concreting, have been fields for considerable economies in the amount of labour used and time saved. In any case, the method is only an instrument to assist good management and can never replace the functions of management.

Builders, of whatever size, ought to look into this scientific method of assisting them in increasing efficiency, and we should like to endorse the suggestion made by Mr. Woodbine Parish from the chair that the LMBA should issue some notes illustrating some of the practical applications of work study methods. Many will feel, as we are inclined to feel, that there is not a great deal in the thing that is not apparent to those blessed with sound common sense, but it may well be that the protagonists of work study are right when they say that those so blessed are in the minority, and that work study both focuses a spotlight on the need to keep every building business under constant review and presents a golden opportunity to firms to use their young future executives to this end.

Notes of the Week

THE BRUSSELS PAVILION

THE Board of Trade has appointed Messrs. Howard Lobb and Partners as architects for the British Pavilion at the forthcoming Brussels Fair.

The Architect's Journal, we see, has made the opportunity to take the Institute to task for not putting forward the names of one or more of the architects who have designed "some of the first-rate exhibition buildings that have been put up in Britain since the war" and instead nominating one of their own executive committee "whose only connection with important exhibitions is that he worked on the administrative (specifically not the *designing*) side of the 1951 Festival." Just why our contemporary should air this view is not clear. Mr. Lobb has long experience in providing the architectural setting for publicity which is what a Fair pavilion principally is, to which is added an executive ability in getting things done which proved timely in the extreme in securing that the South Bank opened punctually in 1951. His partner, John Ratcliff, was responsible for the effective Building Research

ST. PANCRAS REDEVELOPMENT: The Duke of Edinburgh visited the redevelopment scheme on a site between Albany-street and Hampstead-road for which St. Pancras BC is responsible. Four firms of private architects are engaged on the work, and our view shows the shopping centre and public house for which Mr. F. Gibberd, CBE, FRIBA, has been responsible.

REGENT'S PARK DEVELOPMENT: The photograph shows flats designed in Area C of the housing development scheme now being undertaken for St. Pancras BC on a site between Albany-street and Hampstead Road. The architects for the housing in Area C are Messrs. Davies and Arnold, FRIBA, and the builders Messrs. John Laing and Son, Ltd.

Pavilion at Lansbury, Poplar, which was highly successful. Together they present a combination fully capable of producing a Fair building which should do Great Britain credit, and the Board of Trade has done well to recognise it.

COVENTRY CATHEDRAL

MR. BASIL SPENCE has taken another step towards his goal of bringing together leading artists of our time to contribute to his cathedral at Coventry by inviting Sir Jacob Epstein to sculpt a great figure of St. Michael for the liturgical south wall. In bronze, the figure will be about 16 ft. high and will flank the steps leading up to the main entrance from the west. It will be backed by a stone wall. Sir Jacob recently designed the magnificent figure of the Virgin and Child for the convent in Cavendish-square, and the cartoons for this new piece will be awaited with great interest.

Further developments in the diocese are the concrete churches and ancillary buildings which are to be erected on three of the new neighbourhood units, as a first instalment of a group of nearly 20. Mr. Spence's plans for these are illustrated on another page, but it is worth pointing out, perhaps, that it has been possible to get down the cost of these churches only by the closest co-operation with the building firm nominated.

DANCING FOR CHARITY

THE SIXTH BALL organised by the Architects' Benevolent Society in aid of the appeal fund to provide homes for their elderly dependants was held in Grosvenor House on December 8. The 1,000 or more people present thought it a great success, and it netted for this most practical charity a sum in the region of £3,500. For this Mr. Cecil Epril and his keen, untiring ball committee deserve the highest credit. The theme of the ball—"The Reconstructed Stone Age"—was splendidly picked up by the architectural schools who did the decorations, and their designs so completely succeeded in disguising the somewhat austere quality of the room that, for a moment, we thought we had strayed into the Mappin Terraces at the Zoo. Sideshows were well patronised (please, more hoop-la stalls next year; they form a nice half-way house between the athleticism required for the coconut shies and the purchase of raffle tickets) and a hand-picked staff who ought to have been dentists made the monetary extraction practically painless. The programme, now almost a catalogue, was gay and comic, and the revenue must have been as rewarding to those who undertook its compilation as to the charity's funds.

The fact that a start can now be made on the Homes (or will be so soon as the competition is decided) added a great fillip to the evening. Miss Solly, ABS general secretary, is still open to receive donations for the current year. Cheques should be sent to her at 66, Portland-place, W1.

"LETHABY AND HIS TIMES"

BASIL WARD, Lethaby Professor of Architecture at the Royal College of Art, where Lethaby taught for many years, gave the fifth and (unfortunately) penultimate lecture in this series on November 28, writes Basil Marriott.

Previous lectures (most of which have been noted here) have dealt with background, biography, and Lethaby's influence through his work and writings (1 and 2): broader historical aspects, including prominently the advent of the (then) new middle-class and its design implications (3); and the factors inducing new concepts in both social philosophy and art (4). The fifth dealt with the Modern Movement prior to the first and between the two World Wars.

For personal reasons, upon which Basil Ward touched with becoming modesty in referring to his own work, this was very much his meat. For similar reasons the occasion, for one's own generation, was a little sad which is, of course, quite a different thing from depressing. I wondered what the younger ones made of it, and whether they realised how much harder a row than their's had to be hoed, and how flimsy the barricades to be manned in the revolution that heralded the Brave New World. Since then it sometimes seems to have revolved back into the twilight of fat-minded philistinism, and the Modern Movement to have petered out into "commercial contemporary."

But Ward has a way of dispelling such doubts—not least by reminding us that the significance of what the pioneers of any movement say or do lies in the time and context in which it is done, and (by implication) that this is a continuous process. It is, I think, because he is a practising architect—very different from the art-historian, who does not always carry out that primary obligation and so becomes not only that dangerous thing, the "handless mind" but also the unconscious engineer of modish revivals without knowing what made the originals tick.

Few architects can have had such conscientious and sympathetic documentor as Lethaby in Ward: *si monumentum requiris*, see that a Chair of Architecture is established somewhere in his name, and that Basil Ward occupies it!

FIRE AT THE ADMIRALTY

THE old Admiralty building in Whitehall, which was seriously damaged by fire in its upper floors last week, was erected about 1726 from the designs of Thomas Ripley. Blomfield, in his "Renaissance Architecture in England," calls it "a somewhat clumsy composition with a very ill-proportioned portico," its defects, however, being largely hidden by the Adam screen. There are some excellent interiors, in particular the old Board Room which, badly damaged by bombing in the late war, was carefully restored.

THE GEORGIAN GROUP

THE INTERIM report, 1955, of the Georgian Group contains some interesting extracts from the address given by Mr. Nigel Birch, Minister of Works, at the annual meeting of members last July, in the course of which he announced that over £480,000 has been offered in grants under the Historic Buildings Act and that applications for help were coming in at an increasing rate. Georgian buildings to which grants amounting to

COMING EVENTS

FRIDAY, DECEMBER 16.

RIBA.—"The Preservation of Historic Buildings," MoW exhibition. 66, Portland-place, W1. Mondays-Fridays, 10 a.m. to 7 p.m.; Saturday 10 a.m. to 5 p.m., until December 22.

ARCHITECTS' REGISTRATION COUNCIL OF THE UK.—Council meeting. 66, Portland-place, W1. 2 p.m.

ARCHITECTURAL ASSOCIATION.—Carnival. 36, Bedford-square, WC1.

MONDAY, DECEMBER 19.

RIBA.—"Vitruvius on Public Architecture," by Mr. W. A. Eden, FRIBA. 66, Portland-place, W1. 6 p.m.

over £170,000 have been offered include Holkham Hall, Norfolk ; Marlow Place, Bucks ; Vanbrugh's Temple of the Four Winds at Castle Howard; Colin Campbell's Mereworth Castle ; Henry Holland's Althorp ; Leoni's Lyme Park ; Wyatt's Doddington ; and the Pittville Pump Room at Cheltenham. The Group, now housed at 16, Hanover-square, W1, hopes to move into its new offices at 2, Chester-street, next March.

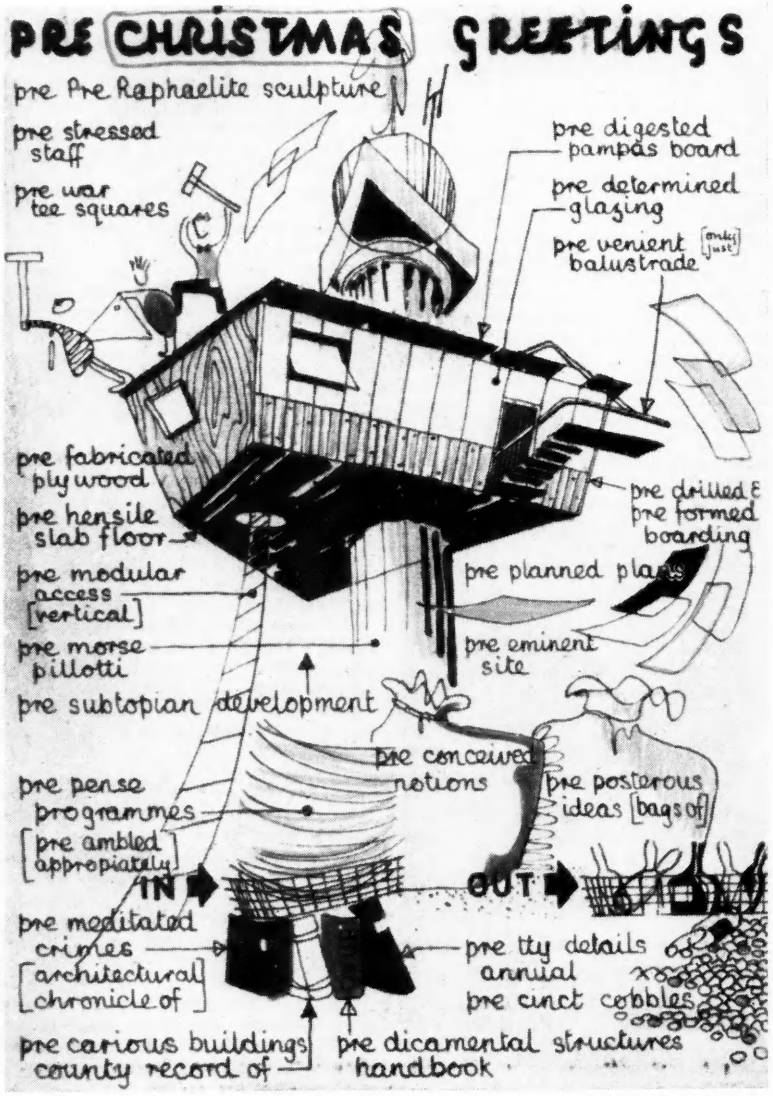
THE FAS BALL

OVER-LARGE gatherings tend to become a little inhuman from sheer weight of numbers, but the party of 180 members and guests who attended the annual dinner and ball of the Faculty of Architects and Surveyors, held at the Park Lane Hotel, London, recently, was sufficiently large to provide interesting points of contact but small enough to retain an intimate and friendly feeling.

Speeches were generally light-hearted, as befitted the occasion, but the president, Mr. N. James Rushton, LRIBA, did refer to the high cost of building, which he attributed to the failure of the operatives to do a day's work for a day's pay, and the restrictive trade-union practices, coupled with deficiences, in some cases, on the part of the builder. Some new incentive, he said, was needed to fill the vacuum left now that the fear of unemployment had gone.

Mr. Rushton also announced that Mrs. M. Montgomery, managing director of the Building Exhibition, who was present, had accepted hon. fellowship of FAS.

Mr. M. Ikramullah, High Commissioner for Pakistan, who proposed the toast of the Faculty, referred to the recent establishment in his country of a branch of the FAS. Mr. G. S. Agar proposed the toast of the guests, and Mr. W. G. Reid responded.



The amusing Christmas card of the Architect and Staff of the Salop County Architect's Department.

CORRESPONDENCE

HORROR OR ART TREASURE?

To the Editor of *The Builder*

SIR,—If any evidence were needed of the capriciousness of aesthetic taste it could not be better supplied than by the recent debate in the House of Lords on the proposal to re-erect in the Victoria Tower-gardens the Buxton Memorial Fountain, which was removed from Parliament-square at the time of the re-planning about five years ago.

Lord Munster, in seeking the consent of the House to the proposal, described the memorial as an "ugly and hideous erection." Lord Jowitt called it "a blot on the London landscape." Lord Esher, however, said it was admired by Mr. John Betjeman and would look better in the eyes of the noble Earl if he lived long enough. Lord Mottistone described it as "gay, elegant and fanciful" and said that it would make a delightful feature of the gardens; while Lord Rea called it a "pink rococo wedding cake."

In the upshot the House assented to the re-erection of the fountain. Where men of high culture can disagree about the quality of a work of art, what hope is there of educating the man-in-the-street ? One wonders whether there are any generally acceptable canons of aesthetics or whether it is all a question of individual taste.

It is interesting to note that the Buxton fountain is almost exactly contemporary with the Albert Memorial, and that both are Gothic of the mid-Victorian kind, though whereas the latter was designed by a distinguished architect (Sir Gilbert Scott), the former was the work of an amateur, Charles Buxton, who built it in 1863 at his own cost as a memorial to the anti-slavery activities of his father, Sir Thomas Fowell Buxton. Charles Buxton also designed his own seat at Fox Warren, in Surrey, and, although an amateur, took part in the competition for the Home Office in 1856 and won a prize of £100 with a design in the Gothic style. Clearly he was a man of ability. Perhaps the most interesting feature of his memorial fountain was the polygonal pointed roof which was covered with sheets of polychromatic enamelled iron, one of the earliest uses of this material.

Mid-Victorian Gothic, for long considered the nadir of aesthetic taste, is now beginning to have a "period" appeal of its own. Even the Albert Memorial is no longer automatically disparaged. Every generation tends to dislike the work of its more immediate progenitors, and there is often an urge to destroy it. Even Lord Munster in the recent debate on the Buxton memorial thought that "much could be said for using a sledge-hammer to obliterate it once and for all." These destructive impulses should be suppressed. A work characteristic of its own time must have a value for posterity, however absurd it may seem to some of us. In any case, the Buxton fountain will have appropriate company adjacent to the Victoria Tower-gardens.

STET.

A CASE FOR THE HALF-BRICK?

To the Editor of *The Builder*

SIR,—It is with interest that I read in your issue of December 9 Mr. Birdwood Willcocks' comments on the snapped header in stretcher bond. May I make the following observations:—

1. To use a header in stretcher bond means that the bond would be quarter

"As you architects are always saying—the value of periodic maintenance cannot be over-estimated!"

and not half bond or use of three-quarters would have to be made. This means cutting and waste of labour and materials, also additional cross joints where the headers are used.

2. Why ask brick manufacturers to make half-bricks when for years we have been cutting closers or quarters which, if done by a craftsman, will cause no waste?

My opinion of stretcher bond is that if a soldier course is laid, say, joist level, it breaks the "monotonous" appearance. Twenty years ago I was using Flemish bond in cavity walls using multi-faced bricks with snapped headers.

Where stretcher bond is to be used, the choice of bricks should be given full consideration as regards colour to blend with the surroundings.

A. SHORT [C of W].

69, Grenville-avenue, Wendover.

NEW PRISON BUILDING

Home Office's Current Programme

A PROGRAMME of current building work for new prisons or Borstal establishments, planned by the Prison Commissioners, includes two security prisons for men, two Borstal Institutions for boys and two for girls, all of modern design. The Commissioners have also secured planning permission for the erection of a special institution for the psychiatric treatment of selected prisoners, a novel and important development in penology in this country.

Work on the first prison has started. The Director of Works of the Prison Commission is Lt.-Col. S. P. Sartain, FRIBA, The Home Office, SW1.

NEW TOWN POST

Hemel Hempstead Development Corporation have appointed Brigadier G. B. S. Hindley to be general manager of the corporation to succeed Mr. W. O. Hart, who is to be Clerk to London County Council.

The Preservation of Historic Buildings

A CURRENT EXHIBITION AT THE RIBA

THIS exhibition, at the RIBA until December 22, is of specialist techniques developed by the Ancient Monuments Branch of the Ministry of Works, and was opened by the Minister on December 9. I was glad that both Mr. Nigel Birch and Mr. Basil Spence, who introduced him, stressed that one of the practical values of archaeology—as opposed to the romantic and even sentimental reasons for the Victorian passion—is as a qualitative yardstick with intensely modern application. As the machine, and the mentality which goes with it, progressively take over, standards of craftsmanship and of the resulting aesthetics are of increasing importance as a corrective.

The safeguarding of old buildings is an intensely practical technique, and the aim of the exhibition is to illustrate this. Considering the difficulties of displaying the subject—including on the one hand the Victorian hangover which has condoned the older archaeologists petulantly throwing a few objects into a showcase and retiring behind a door marked "Private," and on the other the younger art-historian's rushing incontinently into the equivalent of a Bond-street shop-window—the RIBA experiment succeeds in at least avoiding those extremes.

"FIRST-AID"

Under the sections of Masonry, Brickwork, Timber, Plasterwork, Structural Problems, and Ironwork and Artists, the display consists of 27 panels of photographs and drawings, with a number of exhibits in the round, including a partly-cleaned seventeenth-century painted panel from Bolsover Castle, with sections of brick, flint and stone walling, and a model of a grouting-machine — that potent weapon with which the archaeologist now goes into battle almost as often as with the pick and shovel which have proved so double-edged in less expert hands.

For the Ministry's function in this field is mainly that of first-aid, including blood (or rather cement) transfusion, as opposed to the therapy, plastic surgery (and even the cosmetic arts of the mortician) popularly associated with "restoration." To condense the catalogue's apt quotation from Dryden about nodding ancient fabrics....

> "To change foundations, cast the frame anew,
> Is work for rebels, who base ends pursue."

The tragedy is, of course, that the worst vandalism in the past has often been unknowingly perpetrated by such "rebels" in the guise of antiquarians, each age being convinced that it is working completely in the spirit of its predecessors and only posterity seeing the baseness of those ends.

The Ministry of Works can obviously be absolved both from any hurtful rummaging in the art-historical attic or from encrusting the salvage with fashionable chi-chi. Its authoritative techniques are now confidently applied to the 600 ancient buildings in its care and, by recent Act of Parliament, grants are made towards the care of many others. I feel sure that the Minister's hope that architects and others concerned should find the exhibition both helpful and interesting will be fulfilled: but the general public—no less concerned—if it cares to look, will see a new light on archaeology in the combination of taste, scholarship and technique which the exhibition at the RIBA represents.

BASIL MARRIOTT.

Opening by Mr. Birch

OPENING the Exhibition, Mr. Nigel Birch, Minister of Works, said that the object of the exhibition was to give people advice, and this was a very dangerous and unrewarding thing to do. "But we have a certain excuse for giving this advice," he continued, "because the Ministry of Works has had long experience of this work. To-day, we have some 600 monuments which we look after and are responsible for restoring and keeping in good order and since 1953, when the Historic Buildings Act was passed, we have also done a great deal of work on historic buildings and buildings of outstanding architectural merit which are not in our guardianship. So far, something like 300 grants have been given to about 250 separate buildings and it is just this sort of thing we are trying to illustrate in this exhibition on the preservation of masonry and brickwork, plaster, decorated ceilings and many other things. Particularly, we have gained experience in preserving the work of quality, and we have had much help from the DSIR.

"The general interest in the preservation of buildings has risen a good deal in the last few years. For instance, a great deal of work with various societies has been done on the restoration and preservation of historic churches, together with the work of the National Trust and the Georgian Group, and not least there is the competition from noblemen who have exchanged the private enjoyment of their treasures for money.

"We hope architects will take an interest in this work," Mr. Birch went on, "for although our methods are not the only ones they are methods which we find work. Particularly in historic buildings we are dependent, of course, on outside architects because normally the owner of any building employs his own architect and I cherish the hope that one of the results of this exhibition will be that we may be able to obtain rather better estimating. One of the tremendous problems and administrative difficulties is the difficulty in getting accurate estimates of what the work is going to cost, especially when you have to contend with dry rot. We are consistently getting terrible trouble with estimates being exceeded.

MINISTRY GRANT PROMISED

A GRANT of £1,000 towards the restoration and conversion of St. John's Church, Micklegate, York, as the headquarters of the York Institute of Architectural Study, has been promised by the Ministry of Works, on condition that the balance of £2,000 required is found.

Architectural Memories, 1905-1955

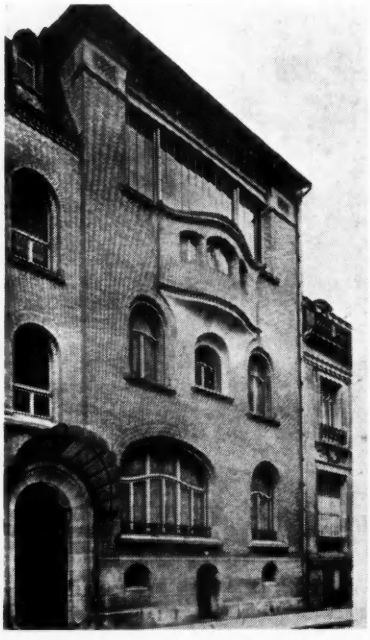
MR. GOODHART-RENDEL LOOKS OVER HIS SHOULDER

A CROWDED house at the Architectural Association on November 30 heard Mr. H. S. Goodhart-Rendel, CBE, P-PRIBA, speak on his architectural memories over the past 50 years. The President, Mr. Bryan Westwood, was in the chair. We now give full extracts from the paper, with points from the interesting discussion which followed.

IF ONE HAD a golden wedding with one's art, mine would have taken place last year, because my two earliest executed designs in architecture date from the year 1904. The half century between then and now has been so full of architectural event, and has already been so closely surveyed by historians, that I am hoping a string of actual memories may contain something of interest to my juniors, and will not be so prejudiced as to be repudiated by my contemporaries. I shall try to tell you this evening how things have appeared in their time, how they have appeared to me at any rate, and also how they appear to me in retrospect when checked by reflection and subsequent experience. I shall attempt no continuous story, and shall claim no more than to supply illustrations and footnotes to a story not old enough yet to need any definite telling as a whole.

FRENCH AMERICAN

In 1905 European architecture was still extremely national and American architecture had recently become extremely French. Nobody would then have thought it possible that in 50 years' time a changed attitude toward the art, together sometimes with sedulous mutual imitation, would make it not very easy to distinguish everyday architecture of one European nation from that of another. If anyone *had* foretold this, I feel sure that the young architects, myself then included, would have rejoiced in such a prospect of international teamwork, but we might not have been greatly pleased had we known that we were to arrive at it by rather imperfectly assimilating each other's peculiarities. The change in the general attitude toward the art, which has been the other factor in restoring European unity—I say *restoring* because unification on other lines had been established fairly completely in the eighteenth century—would have been looked forward to by most of us most happily. It has been chiefly a change in the attitude of the public more than in that of artists. Artists of my generation have always been eager to make experiments, but our present freedom to do so is recent. Fifty years ago our paymasters mostly decreed that we should do no such thing.



House front in Octave Feuillet, Paris. By Plumet.

In saying this I am thinking of England, not of France, in which country many of my early memories are rooted. In France two adventurous experiments were widely popular, ferro-concrete construction and the *Art Nouveau*.

This *Art Nouveau* was the first architectural love of my boyhood, although by the time I was allowed to build anything I had realised that it would receive little hospitality in England and that anyhow its technique was beyond my reach. Its essence lay in the complete fusion of architectural and sculptural values, the insistent use of convex and concave surfaces subtly curved like those of pottery or like those of the human body that approached the rococo of Louis XV but was otherwise unprecedented in art. There was also the elimination of all conventional motifs in decoration. To me this spelt the defiant good-bye to "all that" which most young artists wish to say to the orthodoxies of their seniors, and a fascinating prospect of free light-hearted invention.

FRIVOLITY ITS UNDOING

The architect who in my eyes stood at the head of this movement was M. Plumet, and associated with him in my admiration were M. Robert, the iron-worker, M. Gallé, the glass-blower, the furniture designers of the *Maison Majorelle* and M. Lalique, whom you have all heard of with his glassware but who was then making lovely jewellery but always with an influence outside his craft upon the direction in which decoration generally had been moving. All the work of their school, with its supple forms, its delicate colours, and its suggestion of expanding movement, seemed to me then animated by the spirit of springtime, of the primavera of the art that was to fruit and be harvested in the new century.

Its danger was frivolity, and that danger proved its undoing. It soon became dated and in France unfashionable. I remember no *Art Nouveau* of native production in England except the Horniman Museum at Forest Hill and the Whitechapel Art Gallery among buildings. These were but hesitant and derivative, so that whatever knowledge untravelled Englishmen had of the movement was mainly learnt from art journals or in a lower manifestation from the new look in the ornament of trade products of various kinds, posters, wrappings and stock patterns of utensils.

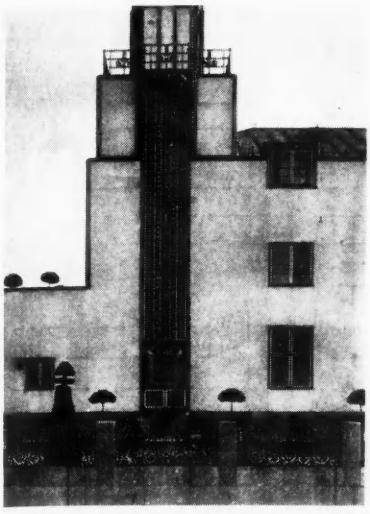
The Horniman Museum, Dulwich. C. H. Townsend, architect.

This ornament as a rule neither received nor deserved much approbation, and has frequently been confused with the radically different ornament for which a school of English designers also claimed the title *New Art*.

"MICKEY MOUSE" WORK

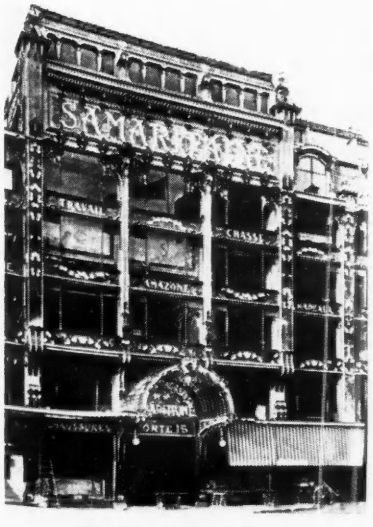
I have a personal detestation of anything that can reasonably be described as "quaint" and you must therefore expect from me no admiration for the new Mickey Mouse work of Le Corbusier, and no tolerant description of work for which this description was actually coveted by its creators. When I was a child I was excited by fairy-tale houses having enormous roofs and practically no windows, by doorways to Wonderland having arches so low that an ordinary person would need to eat one of Alice's reducing cakes in order to pass under them, by tables whose legs not only went down to the floor but sprouted upwards toward the ceiling, by patterns made of cockyolly birds inspecting with surprise square trees slightly smaller than themselves; but when these phenomena pranced out of picture books into reality my excitement gave way to distaste. To many people what was then called "The Simple Life" seemed the panacea for the evils of ill-balanced prosperity. For this simple life the New Art provided a simple architecture, having a great deal of simplicity and not enough architecture to give anybody ideas above his station.

I am afraid that all that has since been



Palais Stoclet, Brussels. J. Hoffman, architect (1905).

written about the Glasgow School of the nineteen hundreds may make my memories concerning it seem a little like the diary of Maurice Baring's fictional English governess in Paris, which contained no reference to anything unusual going on in the streets, and yet was dated all through the days of the Terror. Perhaps if we had known how intensely seriously *Mackintoshismus* was to be regarded in Teutonic countries, we might have paid it more attention than we did. Because, although I do not think we greatly respected the perception or judgment of Teutonic critics, we did respect and admire the achievements of those of their architect countrymen who were attempting to infuse into the superficialities of stylistic revolution a basic study of modern materials and construction. There is no evidence that the New Art designers in England or the Glasgow School boys in Scotland cared very much how their buildings stood up, provided they stood; indeed, there are sometimes



La Samaritaine, Paris.

grounds for suspicion that they did not know quite how they did so. On the other hand, the buildings of Otto Wagner, of Paul Hoffman, and of later designers of the Munich School derived many of their unaccustomed forms from the unaccustomed stuff of which they were made, or the unaccustomed way in which it was put together. Hoffman's house in Brussels was in white marble bound with black steel. It may seem unnecessary, but it is very well done for its date.

CONTINENTAL ENDOWMENT

In the non-nationalistic architectural atmosphere of to-day you may ask why we, 40 or 50 years ago, so seldom attempted to imitate in our practice the characteristics of this foreign work that we watched with so great an interest. I suppose the reason was that there was much we wanted to do but not the least chance of our being allowed to do it. I imagine that we may mostly have wished to endow England with metal and faience street fronts as wild as those of *La Samaritaine,* chiefly bright yellow faience and bright ironwork, or severities like the steel-bound marble boxes of Herr Hoffman. I myself, however, never felt this to be any crippling privation and I suspect that a good many others with me were glad to find duties at home superior to that of importing bright ideas from abroad.

For one of my elders I had a very deep veneration indeed, and it was he, Sir John Burnet, who opened my eyes to the crudity of my youthful prejudices. He was being kind enough one evening to let me look through illustrations of many of his works and let me question him about them. My admiration for the inventiveness and strong characterisation displayed in the exteriors of his commercial buildings, for the masterly planning of other buildings of his whose nature was monumental, left me nothing to ask; but I confess that I gulped a little at some Scottish baronial villas and received a severe shock from an extremely Turkish Turkish bath. Had the Turkish style been imposed upon Sir John by his employers? Sir John did not think so. It seemed to him to be in any case a reasonable implication of the programme. And then followed a few remarks expository of the doctrine that was his and was thenceforward to be mine, both in theory and practice.

The fine arts in their essence were above all considerations of "style," although "style" was generally all that historians and outside critics, and most young artists, probably including myself, could see in them. A "style," traditional or modern, was a set of recognisable symbols by means of which an artist could convey his emotional message to those he hoped would receive it with gratification. If its symbols were not exact and appropriate to the significances of which the artist made them the vehicles, the style had been ill-chosen; if they were used without significance, or were such as to distract attention from significance to the character of its vehicle the style was noxious.

In my reminiscences this evening I have spoken so far of what stands out to me in the foreground of importance, and the background must now be filled in. In the first decade of this century there was very little architecture produced by Government departments, although two large buildings of which the architects had died prematurely, the War Office and the Offices of the Local Government Board, were brought to completion by the Office of Works without any acknowledged assistance from outside, to the great indignation of the Royal Institute of that period. The fire-station and working-class dwellings built by the LCC were mostly of good artistic quality. They were designed by various talented assistants under the protecting name of the LCC Chief Architect. Post offices in large towns were incredibly pretentious, with palatial exteriors having no close relation to their opportunist and not at all skilful plans. In fact, they were a disgrace. In general, it was expected that a public building built without external collaboration by a public body would be a public disaster, and the expectation seldom proved unwarranted. But very few *were* built so, the design of public buildings being almost invariably the subject of competitions open to the profession at large.

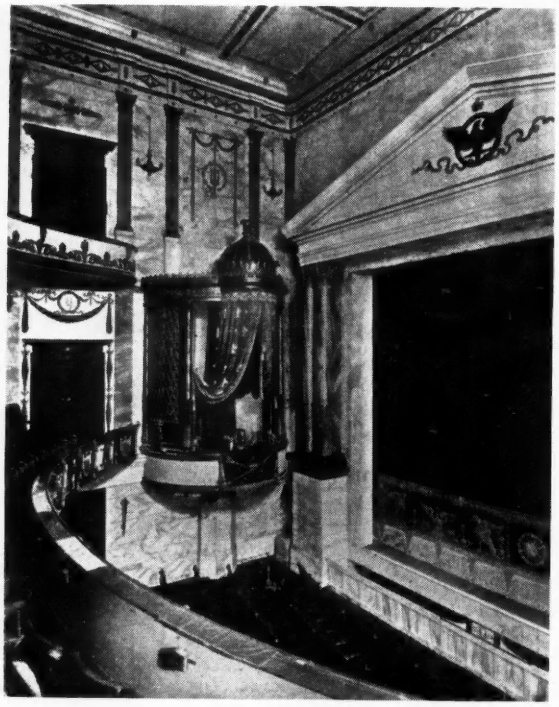
COMPETITIONS

When I was President of the RIBA from 1937 to 1939 I imagine that I heard and disputed almost everything that can be said against architectural competitions, which even then were decreasing toward their present rarity. The objections to them are real and indisputable, but even if added together they would need to be many times multiplied to outweigh two only of the considerations on the opposite side: by competitions unknown talent can rise to its proper level in a national architecture that has need of it, being neither suppressed by lack of opportunity nor unduly exalted by the caprices of patronage; by the comparison that competitions make possible of various approaches to particular problems each competitor, successful or unsuccessful,

Holborn Viaduct Hotel. Isaacs & Florence, architects.

can continue his education and constantly widen his outlook, which otherwise is likely to remain within the limits to which it was extended by the mimic contests of his schooldays.

The open competitions of 50 years ago were not conducted in a manner that any architectural sporting club could approve.



The Imperial Theatre, Westminster. The late Frank Verity, architect.

If you look through the pages of the professional journals of the time of my youth, very often indeed you will find illustrated four projects for one building, the first, second and third premiated designs, and the *selected* design, that is to say, the design selected for execution in defiance of the assessor's report. The reason for its selection can sometimes only be inferred—it may be that its author was a popular local man, or perhaps the nephew of a powerful member of the building committee. More frequently it stands out a mile in the form of an unusually effective perspective drawing. The assessors of those days must take their share of the blame in the matter. Conditions were not always well framed, and I can remember various instances in which a selected design so obviously met the fundamental requirements of the programme better than did any of the premiated ones that you could hardly expect a building committee to pass it over on account of some detail that had compelled the assessors to reject it.

With all these drawbacks, competitions seldom gave results as discreditable as would have been secured from many architects unstimulated by rivalry, and some results of rare excellence from architects little known, such as the Cardiff Law Courts by Messrs. Lanchester, Stewart and Richards.

And there was plenty of need for such rare excellence, the accepted neo-Classic of such notable competition-successes as the New Bailey and the London County Hall being unscholarly and provincial to the last degree when compared with contemporary buildings of the same description in France and America.

THE FRENCH STAR ASCENDANT

It was to France that our eyes were turned in search of improvement. Two important buildings by a well-known Parisian firm of architects had just arisen in London, the Ritz Hotel and the offices of the *Morning Post*. Their style was the modernised Louis Seize then in favour at the *Ecole des Beaux Arts*. In strong contrast to it stood the English Baroque of King Edward's reign which, one cannot but feel, must often have endangered the cordiality of his *entente* with France. That Baroque was the result of a senile escapade in Norman Shaw from which resulted two lusty enough infants — the Piccadilly Hotel and the Gaiety Theatre and—alas!—a whole tribe of cretinous descendants not yet extinct.

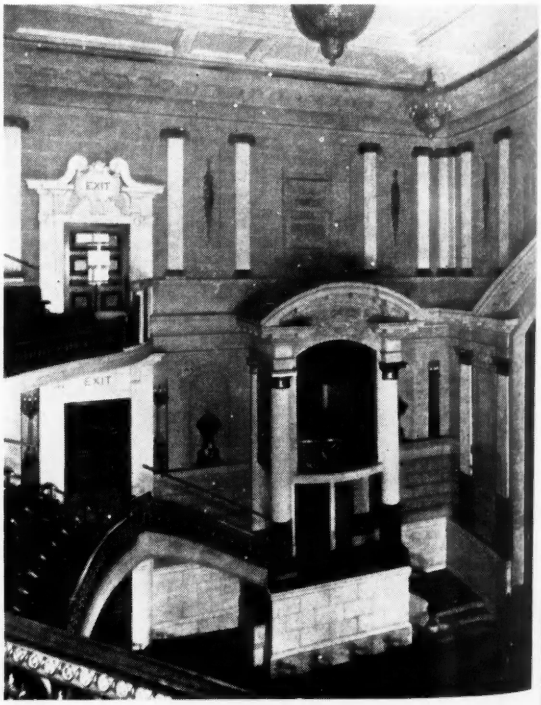
If you really want to see the difference between Edwardian Baroque and the Louis Seize Style Moderne, you could not have found a better example than, when they were new, the two buildings that used to face each other at the corner of the Strand and Aldwych, the *Morning Post* offices by Messrs. Mewès and Davis and the Gaiety Theatre by Mr. Norman Shaw. I have always fancied that this style—the Louis Seize Moderne—will be that of the American section of heaven. Its great success was with the Americans in Paris rather than with the Parisians themselves.

At this time the architectural fashions here in Bedford-square were exclusively French, as those of my generation will remember. Sir Howard Robertson had a great influence upon us, and we admired him as a typical *Beaux Arts* boy who could teach us really what was what. Unfamiliar French words rang daily through the studios—of course, I should say the *ateliers:* words such as *esquisse, pocharde, rendu, hors concours,* etc., and students began to wear quite Parisian-looking blouses and beards. It is rather curious when you come to think of it how very few English architects at this time established had subjected themselves to anything like a complete training in the post-Classical architecture then prevalent throughout Europe. The fountain-head of its tuition was still in Paris where English architectural students had for long been far from numerous. Thirty years or so before there had been a miracle at Glasgow when John Burnet, a young student only just back from the *Ecole des Beaux Arts,* had won for his father's firm the competition for the Art Gallery there, and had built his beautiful design in the accomplished neo-Grec of Duc and Ginain, which made the powerful sensationalism of the local Grecian, Alexander Thomson, look very provincial. You may remember, too, that the big room in the Royal Institute of British Architects is named after its donor, Henry Florence, of the firm of Messrs. Isaacs and Florence, and Mr. Florence was a Paris-trained boy. I have here a photograph of a particularly good building of his which, alas, was a war casualty, the Holborn Viaduct Railway Station and Hotel.

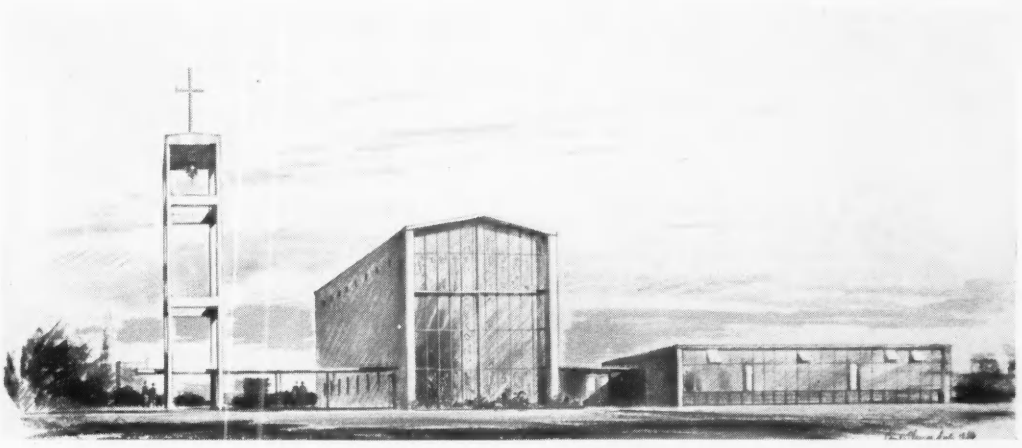
THE VERITYS

Then there was Mr. Frank Verity, son of an elder Mr. Verity who had won in competition the designing of the Criterion Theatre and Restaurant in Piccadilly

(*Continued on page* 1057)



The Scala Theatre, Charlotte Street. The late Frank Verity, architect.



Perspective view of one arrangement of the standard units.

CHURCHES IN CONCRETE

Mr. Spence's Designs for the Diocese of Coventry

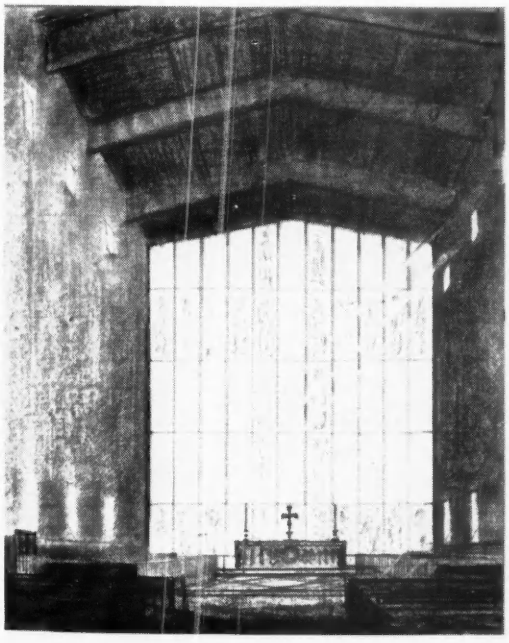
USE is to be made of standard units—campanile, church hall, vicarage and church itself—in a group of churches intended for the new Coventry housing estates, and designed by Mr. Basil Spence, OBE, ARA, ARSA, FRIBA. The plan is one approved by the late Bishop of Coventry, Dr. Neville Gorton, and aims at using concrete construction and repetitive units to achieve low cost. Three churches are to be begun at once, Messrs. Wimpey's being the contractors, and others will follow. The cost of each basically is £16,000.

Illustrations now given show both the basic elements and three variations of assembly as designed for varying sites on the Wood End, Willenhall and Tile Hill housing estates. The units are linked by covered ways, and each layout is capable of forming a most pleasant group.

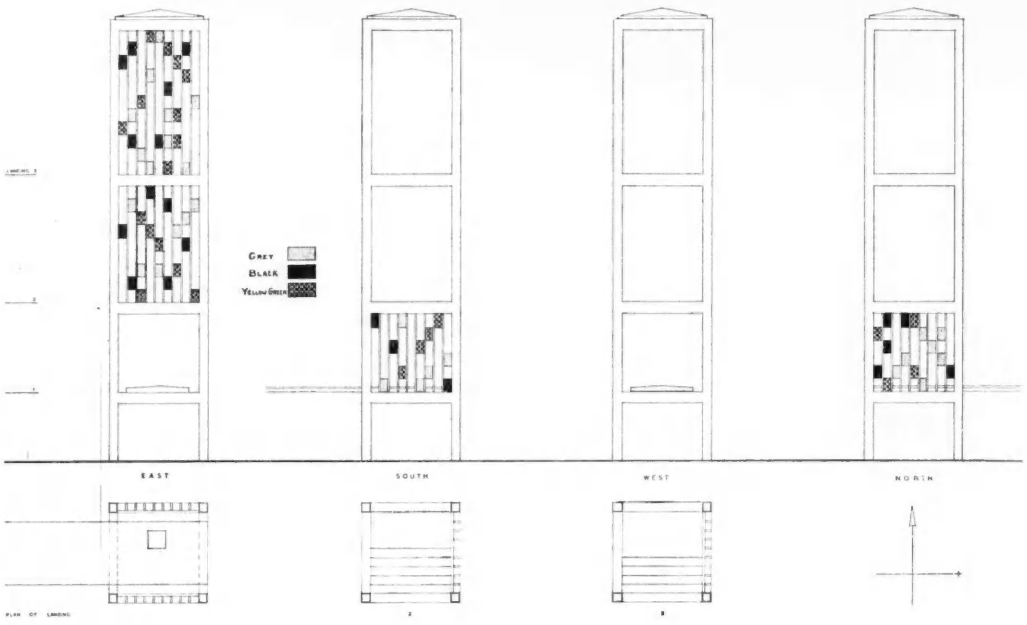
The method of construction is an essential part of the scheme. Structure will be in " No-Fines " concrete as developed by Messrs. Wimpey's, to whom the architect wishes to pay tribute for their complete co-operation in bringing down cost to a point where it is expected that the Diocese will gain a large number of new churches (it is envisaged that eventually about 16 will be needed) at a cost roughly 40 per cent. that of brick buildings previously erected. The " No-Fines " system makes it simple to achieve differing fenestrations without extra cost, and the fact that the firm have an existing plant in Coventry is an advantage.

Each church will seat 250 and will be linked to a hall seating about 100, using a common main entrance. Light is given to the church either by tall windows at either side or, as in the Bell Green example illustrated, by a glass east end. In some cases, the west wall may be glass also. Roofing will be in Fural sheeting.

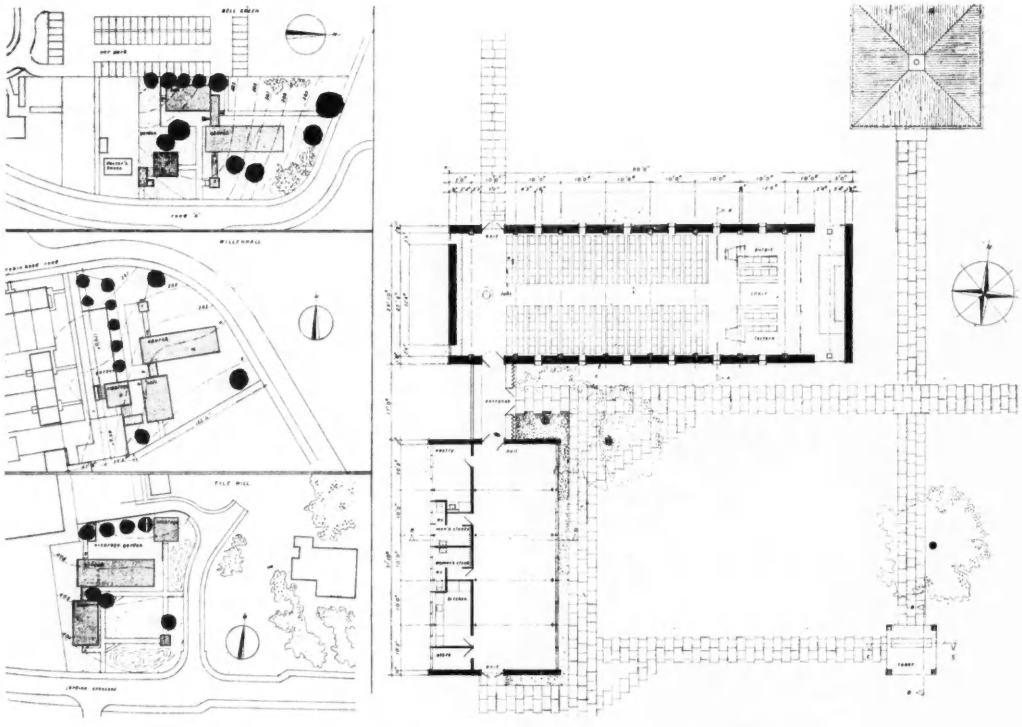
The campaniles are of lattice design, and Mr. Spence proposes to form patternings in some of the panels by the use of enamelled iron sheets of differing colours. A drawing on next page shows how this suggestion would work out. The panels could be varied as to colour and arrangement as wished.



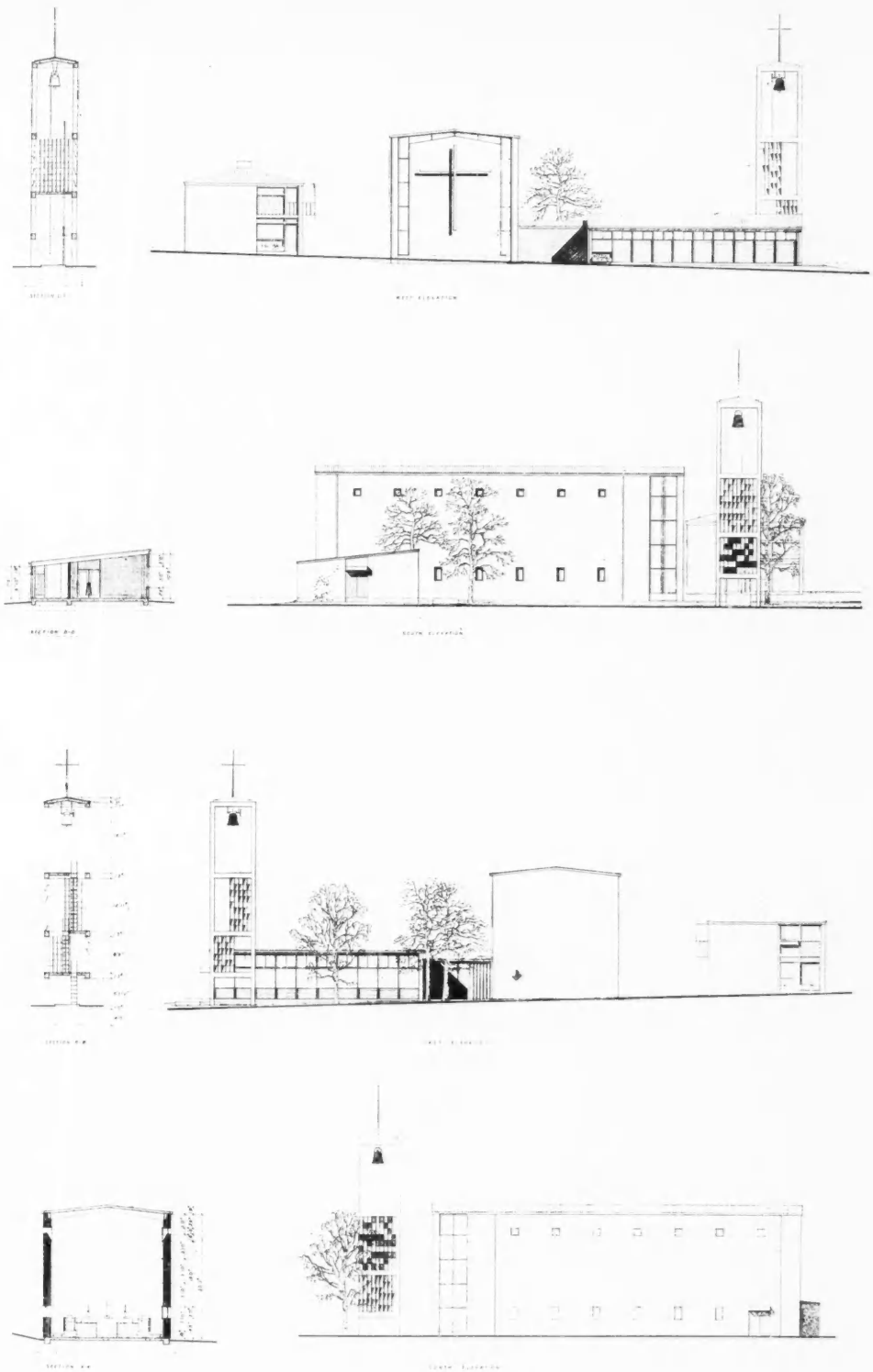
View of glass east wall, Bell Green Church.



Drawing showing tower treatment, Bell Green Church.



Plan of Tile Hill Church and (on left) typical layouts using the standard units.

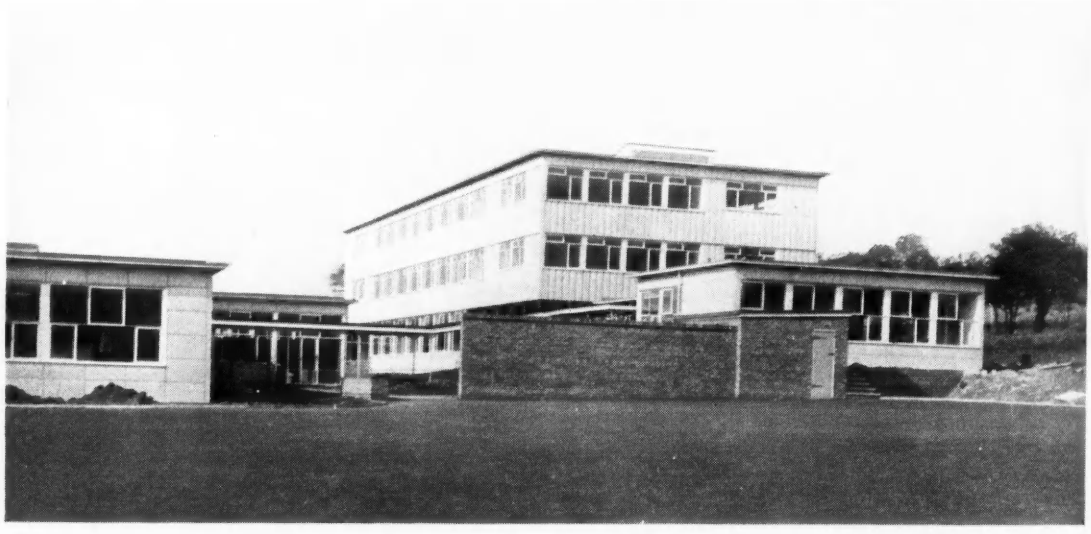


Elevations and sections of Tile Hill Church.

CHURCHES IN CONCRETE, COVENTRY

SECONDARY MODERN SCHOOL

AT BELPER, DERBYSHIRE



General view from the south.

F. HAMER CROSSLEY, FRIBA, COUNTY ARCHITECT

in collaboration with

S. A. W. JOHNSON-MARSHALL, CBE, ARIBA, Chief Architect (MoE)

BARBARA M. PRICE, BA, ARIBA (Architect in charge)

D. G. BARROW, ARIBA, AMTPI. PATRICIA R. TINDALE, ARIBA. G. J. FOXLEY, ARIBA, Assistants

Quantity Surveyors (MoE)
J. NISBET, ARICS
R. KING

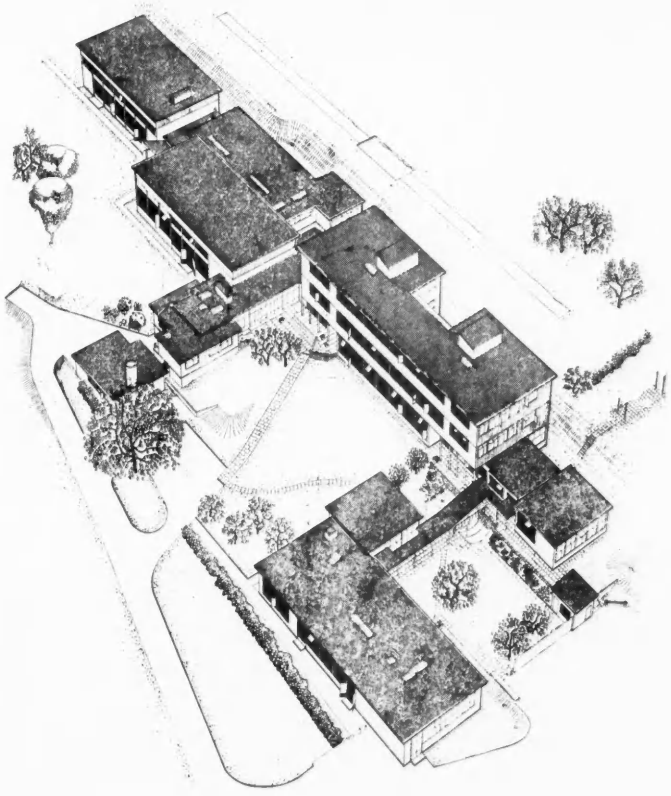
Structural Engineers
J. BROCKHOUSE & CO., LTD.

Builders
F. TROY & CO., LTD.

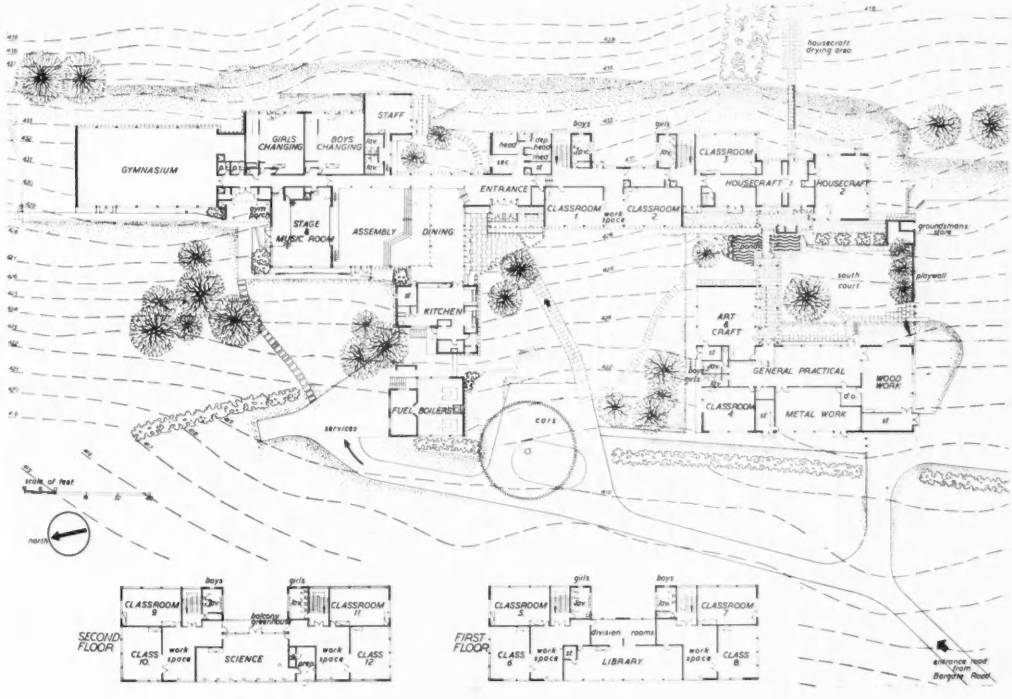
BELPER Secondary Modern School is the result of a joint undertaking by the Derbyshire Local Education Authority and the Development Group of the Ministry of Education, to provide accommodation for 450 boys and girls.

The Authority's invitation to co-operate in the project was welcomed by the Ministry because it provided an opportunity to consider certain educational points in the planning of a school of this size and type. From the constructional point of view it was an opportunity to try out an alternative system of prefabricated construction to the one which had been used for the Wokingham school.

Site: The school is situated on the eastern slopes of the Derwent Valley, above the small industrial town of Belper. It covers 13½ acres on the upper side of a new housing estate in an exposed position. The site has a slope of about one in ten on the steeper part where the school is built. Trees and hedges have been kept so far as possible, and one fine oak tree is the focus for the main court of the school. A considerable amount of new drainage was needed before the site was in a condition for building.



The main central block is three storeys high, and contains five house units comprising two classrooms and a work space. The administrative buildings are planned in two groups. The housecraft rooms and needlework room are grouped near the south entrance of the main block.



South elevation of the dining area to assembly hall. Below: " Cut-back " eaves at junction between main blocks to afford light to windows.

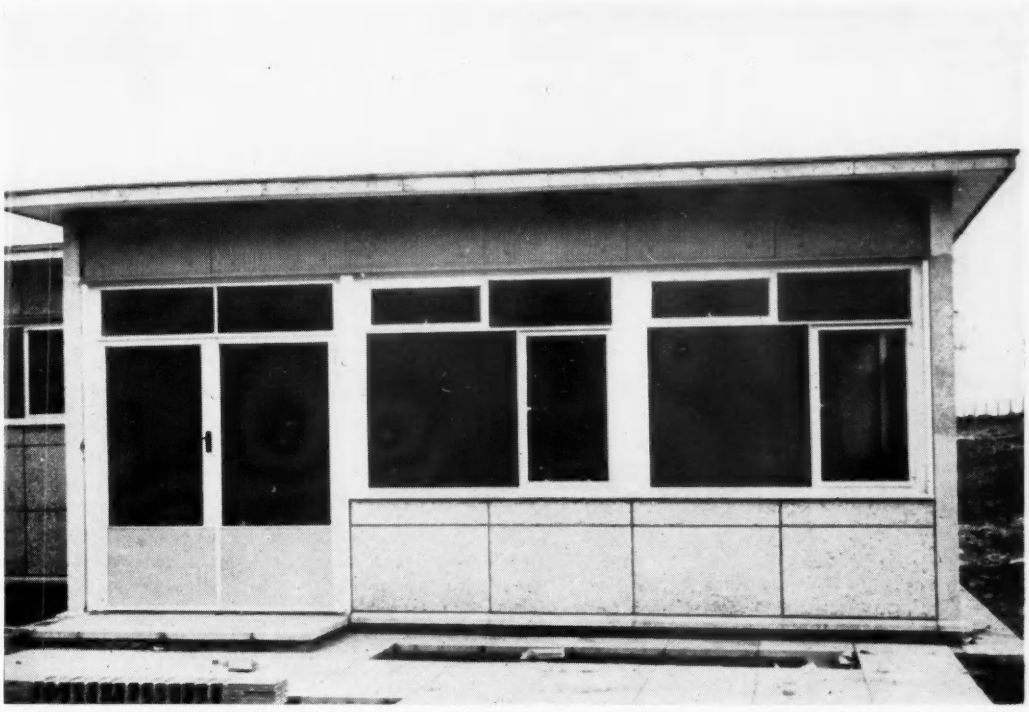
Planning: The main blocks run along the slope from north to south, and are planned so that as many rooms as possible have windows facing south.

The three-storey main block is placed centrally and contains classrooms forming the five house units. Each house consists of two classrooms and a work-space, and has its own cloaks and book-locker area. Four of the houses are planned so that the work-space can, by means of a sliding-folding door, be combined with one of the classrooms. In the fifth house on the ground floor, the work-space is between the two classrooms, and two sets of sliding-folding doors enable the whole area to be opened up into one space.

Owing to the sloping site, the hall has been planned on three levels: the entrance hall steps down 2 ft. to the dining area, which in turn steps down 2 ft. into the pit of the assembly hall. On the other side of the hall is the music room, which has a small sub-stage. The hall's assembly area and dining space can be used together for large meetings. The assembly hall and music room can be used simultaneously for two separate classes, divided by a movable sound-proof partition. For very large meetings, such as play productions, the whole of the space of the hall plus the music room can be used, with the music room becoming the stage (for this purpose the sound-proof partition can be moved to the back of the stage).

Construction: The development work on construction began in 1951, when there was special need for economy in the use of steel. The system was required to provide sets of standard components on a 3 ft. 4 in. grid, which could be used to build schools up to three storeys in height within the permitted cost per place. The framework was to be designed in cold rolled sections of light gauge steel.

For visual reasons it was decided that the external wall should be outside the stanchions, and this enabled normal protective treatment to be used for the light gauge components and avoided the necessity of more expensive metallic coatings. The frame was conceived as a series of independent rectangular " table tops " or



South wall of the staff room.

beam networks, supported by " legs " or stanchions at selected points. The main beams take loads from one side only and are fixed to the sides of stanchions, both on the perimeter and within the building. This arrangement reduces the number of types of main beams required and also allows free vertical passages for the services. Another advantage is that the stanchions do not have to line up across a building, and can be accommodated to suit the openings.

The beam system was designed to provide the maximum flexibility in planning. A set of floor beams was designed to take floor loads and these are used on the roof at the double spacing of 6 ft. 8 in., with an end span of 3 ft. 4 in. if required. By this means, the number of beam components was reduced and a more economic use was made of the light-gauge steel sections.

The floor construction consists of grouted precast concrete slabs, supported on, but not fixed to, the beams, which are interlaced with bridging beams to provide lateral stability and to spread concentrated loads. The lower flange of all beams is designed to take suspended ceiling panels, which hide the beams and services, and the stanchions are contained in the partitions, giving a flush surface.

One of the aims was to reduce costs spent on external walling and frame. This led to the development of two types of interchangeable cladding. Precast concrete slabs with exposed aggregate were chosen for the more vulnerable walls on the ground floor and asbestos cement " double-cladding " sheets for upper floors, mainly for reasons of cost and the shortage at that time of metals, and also for their compliance with the 3 ft. 4 in. grid. A two-skin external wall was chosen as an economical type to give good insulation and weather proofing; the cavity also conceals the vertical bracing.

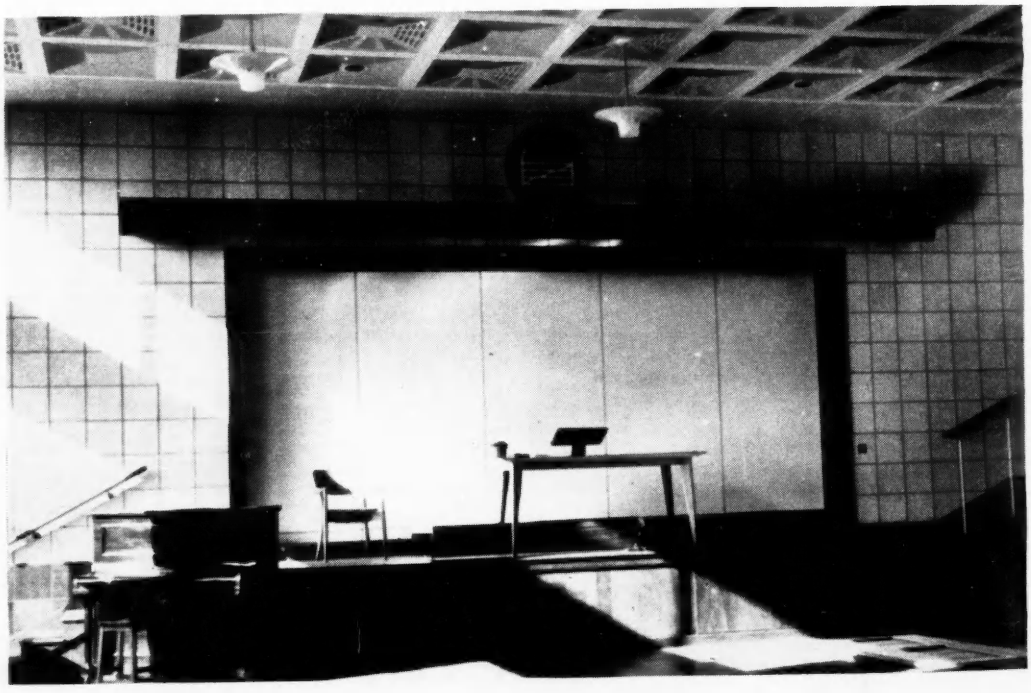
The tender for the project amounted to £142,524.

Sub-contractors were as follows:

STRUCTURE : Precast plaster partitions, fibrous plaster, etc., John Kent (London), Ltd. ; metal windows, external doors, rooflights, etc., Henry Hope and Sons, Ltd. ; asbestos-cement sheeting, Turners Asbestos Co., Ltd. ; structural steelwork, Brockhouse Steel Structures, Ltd.; precast concrete wall slabs, etc., Stent Precast Concrete, Ltd. ; metal rainwater heads, wall ventilators, Greenwood and Airvac, Ltd. ; precast concrete staircase steps, Girlings Ferro-Concrete ; precast concrete floor and landing slabs, Hills (West Bromwich), Ltd.; wood wool channel reinforced slabs, Thermacoust, Ltd. ; sliding-folding timber doors, Esavian, Ltd., Stevenage ; roof felting and dampcourses, Ruberoid Co., Ltd. ; mastic joints, Mastic Jointing and Sealing Co. ; electrical installation, Etna Lighting and Heating Co., Ltd. ; prefab plumbing units, Econa Modern Products, Ltd., Birmingham ; chimney stack, True Flue, Ltd. ; heating and water supply, Weatherfoil Heating Systems, Ltd. ; sanitary fittings, Adamsez, Ltd. ; studded rubber tiles, cork tiles, etc., Haskel, Robertson and Co., Ltd. ; hardwood floors, thermoplastic tiles, Hollis Bros., Ltd. ; clay tiles, Camden Tile and Mosaic Co., Ltd. ; plywood wc cubicles, cycle sheds, H. Newsum Sons, and Co., Ltd.; internal flush doors, Walter Lawrence and Son, Ltd. ; ceiling panels, Meta Mica, Ltd. ; plasterboard ceilings, Anderson Construction Co., Ltd. ; paints, John Hall and Sons (Bristol and London), Ltd. ; James Mason and Co., Ltd. ; precast manholes, Monoconcrete Co., Ltd. ; adhesives, B. B. Chemical Co., Ltd. ; glazed tiles, Carter and Co., Ltd. ; acoustic tiles, H. W. Cullum and Co., Ltd. ; glazing, Victus Glassworks (Romford), Ltd. ; plumbing, T. C. Toogood, Ltd.

EQUIPMENT : Removable balustrades, Haywards, Ltd. ; ironmongery, Beckett, Laycott and Wilkinson, Ltd. ; James Gibbons, Ltd. ; joinery, Troy Joinery and Cabinet Co., Ltd.; Wheeldon Bros. ; W. Brown and Co., Ltd. ; D. Burkle and Sons, Ltd. ; road light fittings, terrazzo treads, Evans Concrete, Ltd., stage lighting, gearing for movable partition, W. J. Furse and Co. ; light fittings, Fulford Brown Bros., Ltd. ; Hartley Electromotives, Ltd. ; Troughton and Young, Ltd. ; General Electric Co., Ltd. ; Merchant Adventurers ; Bushell and Saward, Ltd. ; fire alarm equipment and clocks, Gents and Co., Ltd. ; venetian blinds, Home Fittings (Great Britain), Ltd.

MISCELLANEOUS : Tarpaving, Constable Hart and Co., Ltd. ; fencing, Permafence, Ltd. ; playing fields landscaping, Barrons Landscape, Ltd., Derby ; main entrance gates, Mott and Ptrs., Ltd. ; external door stops, Gardener, Sons, and Co., Ltd. ; photo-mural, Autotype Co., Ltd. ; lettering and signs, Derby Signs ; curtain tracks, T. French and Sons, Ltd. ; concrete kerbs, copings, etc., Hilcrete, Ltd.



The dining area in the assembly hall. Below: The proscenium arch to the assembly hall stage closed by a sound-proof partition. Note the acoustic fibrous plaster ceiling.

SCHOOL AT BELPER, DERBYSHIRE

News of the Week

NEW AMERICAN EMBASSY

A NUMBER of American architects recently paid visits to London to study the site of the new American Embassy, which is to be built in Grosvenor-square. The design of the building is at the moment the subject of a limited competition, organised by the State Department. Eight architects have been invited to compete; they are: Eero Saarinen; Edward D. Stone; William Wurster (formerly head of the architectural department at Massachusetts Institute of Technology); Hugh Stubbins; J. L. Sert (Dean of the Architecture School at Harvard University); Anderson and Beckwith; Minoru Yamasaki; and Ernest J. Kump.

Their designs will be assessed by a jury of six, three being State Department officials and three being architects; in addition, the president of the American Institute of Architects will be chairman of the jury. Designs have to be submitted by the end of January.

The site of the new building (which will contain consular and other offices as well as the embassy proper) consists of the whole of the west side of Grosvenor-square, now occupied by old houses.

LECTURES IN TURKEY

PROFESSOR NIKOLAUS PEVSNER, Head of the Department of the History of Art, Birkbeck College, London University, is lecturing this month for the British Council on architectural subjects in Turkey and Greece.

In Turkey, where he was staying from December 6 to 13, he lectured at the Faculty of Architecture in the Technical University, Istanbul and also in Ankara. He will be in Greece from December 13 to 20 and will lecture in Athens and probably Salonika.

His lecture subjects are "Elizabethan Architecture," "Sir Christopher Wren" and "Recent Trends in English Architecture."

HOSPITAL FOR ALDERNEY

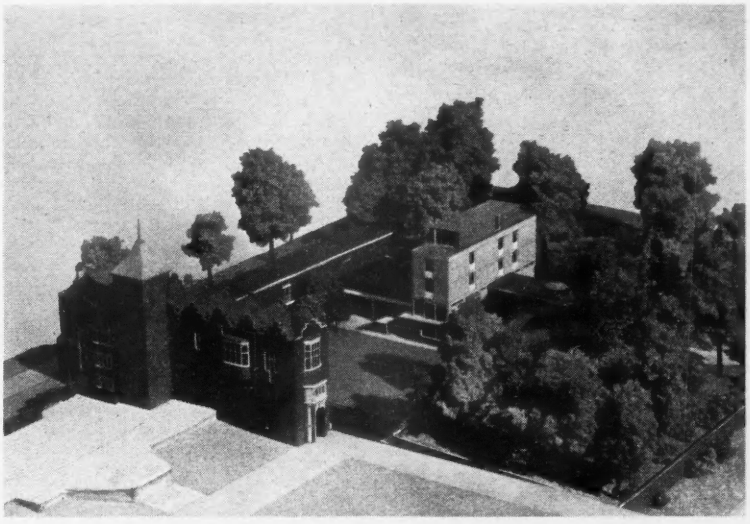
THE Nuffield Provincial Hospitals Trust has made a grant of £20,000 to enable a new hospital to be built in Alderney, in the Channel Islands. The trust's third report, just issued (covering the period 1951-55), points out that the grant is "more than for mere bricks and mortar; it will assist the only part of the United Kingdom which was actually occupied during the 1939-45 war—and which suffered grievously as a result—to provide a centre for the health services of the island."

The building will be designed by the Nuffield Foundation's division for architectural studies, since it affords a welcome opportunity, the report continues, to experiment in the design of hospital and health centre facilities for a small and often isolated community whose needs vary from time to time.

PRESERVING OLD LONDON

THE London County Council have made building preservation orders in respect of two premises which are of considerable architectural and historical interest. One of them, 34, Portland-place, St. Marylebone, is one of the original houses belonging to the scheme of development of 1776-78 designed by the Adam brothers, comprising three-storeyed houses in balanced compositions arranged in complementary terraces on each side of the proportionately broad street. Even in its present state, the Council says, Portland-place is a noble example of the Adam brothers' skill in urban architecture. The order has been provisionally confirmed by the Minister of Housing and Local Government.

The other building, 9, Clifford-street, Westminster, is a well-preserved town house of the early eighteenth century. It is, moreover, one of a range of similar houses, several of which contain noteworthy features. The front of the house is a remarkably fine example of its type and period: it has four well-proportioned storeys, and an excellent Ionic pedimented doorway. The order was occasioned by a proposal to demolish the house and erect a new building for offices.



YOUTH HOSTEL AT HOLLAND PARK, KENSINGTON.—This model shows the proposals for the new hostel in the grounds of Holland House. The architects, Sir Hugh Casson, MA, FRIBA, and Neville Conder, FRIBA, have designed a loosely-linked group of buildings around a courtyard with no physical contact between new and old. The varying heights of the blocks are adapted to their position on site. The Group comprises a two-storey dormitory, a one-storey flat-roofed block containing dining-room and kitchens, and a four-storey dormitory and entrance block. The materials used include an artificial stone facing for the four-storey block and red brick for most of the remainder. The existing east wing of Holland House would remain as the monument of the site. Kensington MBC has objected to the scheme.

CITY AND GUILDS PRIZEGIVING

PROFESSOR A. E. RICHARDSON, PRA, FRIBA, presented the prizes on Friday evening (December 9) at the City and Guilds of London Art School, S.E.11. The School was founded in 1879 and situated in Kennington. Instruction and facilities for private study are given in drawing, painting and modelling; carving in wood and stone; ornament, lettering and letter-cutting; engraving, etching and lithography.

Much work at the Kennington school is done by people already in employment where artistic judgment is of increasing importance, so they work at the school in their own time to improve the standard of their work. The number attending the classes may not be large compared with some other schools, but that, it is stated, has no significance. There are no set examinations to pass—the work done and how it is done are the criteria that determine the award of the Kennington Art School's Certificate of Merit.

APPOINTMENT

MR. MERVYN BLACKMAN, ARIBA, AMTPI, Deputy City Architect and Planning Officer for Oxford, has been appointed first Borough Architect of Luton.

PROFESSIONAL ANNOUNCEMENTS

MR. G. S. AGAR, FFS (Quants.), FVI, building and quantity surveyor, has moved to new offices at 163, Rye-lane, SE15 (tel.: New Cross 6197).

MR. HAROLD MONKS, FIQS, will be taking additional offices from January 9 at No. 11, Gray's Inn-square, London, WC1 (tel.: Holborn 1457 and Chancery 5957).

FROM "THE BUILDER" OF 1855

Saturday, December 15, 1855

METROPOLITAN COMMUNICATIONS. — *Mr. Gye's Plan for a Glass Street.*—Mr. Gye, the director of the Royal Italian Opera, Covent-garden, projected a scheme for connecting the different parts of the metropolis by means of a gigantic arcade; and read to Sir Charles (then Mr.) Barry, in the presence of Mr. Manby, secretary to the Society of Civil Engineers, a paper explanatory of the scheme.... Mr. Gye proposed that iron and glass should be the chief materials employed. His prospectus also sets forth a plan for conveying letters and parcels inside iron tubes, and propelled by atmospheric pressure, in the same manner as Mr. Vallance proposed to propel passengers many years since at Brighton....

WORK STUDY

Conference on Application of Principles to Building

CALLED by the LMBA, a group of interested members met on December 8 at the British Institute of Management's premises in Hill Street, W1, to consider the applications of the Work Study method of production improvement to the building industry.

The chair was taken by Mr. D. E. Woodbine Parish, FIOB, MIIA, and the conference was briefly welcomed by Mr. Laurence Holloway, President LMBA.

In his opening remarks MR. PARISH said that the conference provided a splendid opportunity for developing new fields of industrial thinking.

"Management's task in the mid-twentieth century has become extremely complex and the techniques of management have to be very much more closely understood and practised if increased productivity is to be achieved," he said. "Work Study is a modern all-purpose weapon in the vast armoury of management techniques. It can be used with success to assault many of the current problems facing the building industry. The principles upon which it is based are age old and need to be identified and accepted wholeheartedly by top level management if a quick and substantial contribution to the challenge of brimful employment and the resulting inflationary trend is to be met."

Work Study had already shown amazing results when employed by enlightened and progressive undertakings, continued Mr. Parish. It could be briefly defined as an analytical process by which the optimum use of available mental and manual capacity, material resources and machine power was effectively achieved. Work Study was not an exclusive technique of large undertakings but rather the expression of a dynamic attitude of mind in those responsible for the control and direction of the day-to-day conduct of affairs. It provided a basis for setting standards and measuring performance and the systematic reduction of human and material waste, which led to improved industrial relations and the removal of some of the basic causes of discord and disaffection in industry.

WORK STUDY PRINCIPLES

Speaking next, MR. E. F. L. BRECH outlined the nature and objectives of the method. He defined "Work Study" as a tool (or technique) of management involving the analytical study of operations for one or both of the following purposes:

1. The determination of optimum methods and layout of work, including gang sizes, correct equipment, disposition of materials and equipment, etc.

2. The measurement of the work content of operations in order to establish factors for planning data, incentive targets and cost control.

Practical application included several specific aspects, any of which may be used separately or in combination for selective purposes as required:

1. *Production Study*: The continuous observation of small groups or gangs of operators over the whole of a working spell. This type of study was a means of factually revealing idle time, inadequate use of equipment, unbalanced gangs, faulty planning, inadequate instructions, etc. It was very valuable for diagnosis on sites showing unexplained excess operating costs. It could also be used to provide a check of revised methods over a period of time.

2. *Method Study*: An analytical fact-finding study of complete operation, followed by a critical review of the methods at present employed, in order to develop improved methods. The factors to be covered included:

a. the layout of the site and material;
b. the movements of materials;
c. the pre-planning of the operation;
d. the quality of the work done;
e. the deployment of men and equipment;
f. the nature of the supervision.

Finally, assessment of the revised method in actual performance was made.

3. *Motion Study*: The detailed study of finely divided movements in human effort, based on more elaborate techniques of element analysis, motion charts and micro-motion study. (This, Mr. Brech warned, was not particularly applicable to building and civil engineering operations.)

4. *Time Study (Work Measurement)*: The timing of well-defined portions or elements of an operation after a correct method has been laid down. Whilst timing the element the observer also "rated" the performance of the operator, and brought the observed times to a common performance level; appropriate fatigue and relaxation allowances were assessed, and thus "standard times" were worked out. For non-repetitive work, synthetic set-ups could be established, employing elemental times previously determined by time study.

5. *"Methods - Time - Measurement"*: A special system of pre-determined standard times built up synthetically from detailed method and motion studies.

Some practical examples of the use of the method were outlined by MR. B. D. WILLIAMS (John Laing and Son Ltd.) and discussion followed.

The meeting will be more fully reported in a later issue.

CEMENT AND PLASTER BOARD PRICES

Stabilisation for "At Least Six Months"

SIR MALCOLM TRUSTRAM EVE, independent chairman of the Cement Makers' Federation, announced on Wednesday, December 14, that cement prices would be stabilised for at least six months. MR. A. JUKES gave a similar assurance on behalf of the plaster board industry. Following is the main text of Sir Malcolm's statement:

All the makers of Portland cement have agreed that from to-day until at least June 30, 1956, there will be no rise in the present price of cement anywhere in the United Kingdom. [General prices last changed on August 1, 1955, when they went up by 5s. a ton.]

The reason is short but clear: it is that all 10 independently controlled cement makers feel that it has become vital in the public interest that some positive and definite action should be taken to slow down the inflationary spiral. The hope is that other industries will feel able to take similar action—they realise that the effect of their action by itself can only be small but are sure that if it were to start a snowball, really important results would certainly follow. The risks involved are not negligible. Cement makers can undertake to continue to improve the efficiency and quality of their manufacture, but can only ask that others who are responsible for well over one-half of their manufacturing and delivery costs can help by keeping their prices stable.

Increased production and efficiency have helped so far in keeping down the costs and stabilising the prices of cement. Production is now running at over 1m. tons a month, compared with less than one-half 20 years ago. Prices for cement are delivered prices and these prices averaged over all the United Kingdom are still only about £5 a ton. Until the increase in the price of coal last summer forced a rise nearly all cement prices had remained unchanged for 17 months.

Why cannot the cement industry therefore promise a longer period of stable prices than six months? The frank answer is that much more than one-half of the costs is the concern of others. Indeed, coal, electric power and transport alone account for nearly one-half of the total costs of a ton of cement. If purchased stores, raw materials and local rates are included, the proportion is some two-thirds. Rises in the price of coal and power are directly related to the cost of a ton of cement—and cement, though relatively cheap, is heavy, so the cost of transport is necessarily high in a delivered price. Coal and power are publicly owned, so is much of the transport. Cement costs therefore depend to a very large degree on prices fixed by the National Coal Board, the British Electricity Authority, and the British Transport Commission.

If cement makers could know for certain that the charges of all these three bodies would not rise for a named period, the period of promise of "six months at least" might well be extended. Letters have today been sent to these three bodies and to the trade unions concerned asking for their co-operation. In the absence of favourable answers cement makers can only wait and see and must reserve the right to look again at their costs half-way through 1956.

If other industries are able to follow this lead and if publicly owned goods and services do not rise steeply in price, Portland cement makers feel that they can continue to play their part in stabilising costs over the whole field of construction.

MR. A. JUKES then gave a similar assurance on prices on behalf of the plaster board industry. He said that plaster board was now in free supply and that since decontrol of prices by no means all the rises in cost incurred had been passed on to the consumer. He had no doubt that by taking part "in the very worthy cause" of price stabilisation the industry would have to sacrifice something in profit margins.

Architectural Memories, 1905-1955

(*Continued from page* 1046)

Circus, excellent buildings before their mutilation, and had also designed the terra-cotta detail of the Albert Hall for the South Kensington group who were putting up the Museum buildings there. Mr. Frank Verity, whom I shall mention later in connection with theatres, created a sensation at the beginning of this century by designing in Hyde Park-place, close to the Marble Arch, a block of flats in the severest Louis Seize Moderne style that London had yet seen. He followed this closely by a similar but smaller block in Berkeley-square facing down Berkeley-street, and by a range of houses and flats, now all flats, in Cleveland-row just opposite St. James's Palace. It made a very great sensation.

Oddly enough, just at this time when fashions went so fiercely French in the architecture of expensive flats and hotels, long-established French fashions in internal decoration weakened and disappeared. All through the Victorian period the drawing rooms in houses where *good* parties would be given, were decorated in what was hoped might be one of the Louis styles. To give an impression of what fashionable decoration was like in those days I shall take the risk of being thought over-frivolous and quote two verses from a song I wrote for one of the AA pantomimes. The words were put into the mouth of a successful decorator who was instructing a junior in the trade that—

'the fashionable status
Of the folk for whom one caters
One must study, or their custom one may lose;
For Mayfair will seldom vary
Far from Will-i-am and Mary
While in Chelsea Later Regency they choose.
Louis Seize may prove the saviour
Of poor out-of-date Belgravia,
William Morris still survives on Campden Hill;
Dear old Pont Street clings to Tudor,
Rutland Gate is even cruder,
And the suburbs are Elizabethan still.'

Less need be quoted from the second verse, but the first six lines of it may remind us usefully of the quick changes of taste that could be indulged in those days when money bought more than it does now. The decorator, continuing to instruct his assistant, assures him that—

'If you are up-to-date and clever,
You need practically never
Leave a house alone where once you've shown your skill.
Fashion's fortunately fickle;
First you paint and then you pickle.
Then you paint again and send your little bill.'

LONDON THEATRES

I now come to a few of the London theatres. I can think of very few which are architects' work inside. Of the three architect-decorated theatres I can recall, the best in my opinion was the Playhouse, a new name for the old Avenue Theatre within whose outside walls it was constructed. That theatre had had a curious history. It was originally built by an astute speculator upon a site impinging so inconveniently upon Charing Cross Railway Station that it seemed practically certain that the railway company would soon have to buy it at a much higher price in order to get rid of it. Well, that little certainty did not come off, but instead the Charing Cross Railway Station chose to fall upon it, destroying all but its shell. I imagine, therefore, it was the insurance company and not the railway that had to pay for its rebuilding, which was done by a most talented architect, who was a great personal friend of mine, Mr. Fernand Billery of Messrs. Blow and Billery. The interior of the theatre was quite delightful, having just enough the quality of stage scenery to seem a truly theatrical building.

The Scala Theatre was another resurrection of an older building, being on the site of the old Prince of Wales Theatre in Charlotte-street, Tottenham Court-road. The present theatre, designed by Mr. Frank Verity, I remember very well indeed, because it was taken for performances of light opera, several performances, when it was almost new, by an operatic society of which I was part founder at Cambridge. It is nothing much outside, but though I have not been in it for years, I believe I should think it still as fine internally as I did at that time. The Scala was not Mr. Verity's only theatre. He had before this time supplied a very beautiful interior to the theatre that formed part of that most sordid of all Victorian experiments in entertainment, the Royal Aquarium. The Royal Aquarium I well remember as standing upon the site now occupied by the Wesleyan Central Hall. I think it was the most sordidly ugly building I have ever seen. When its theatre was remodelled by Mr. Verity for Mrs. Patrick Campbell, the building was renamed the Imperial and was the very last word in good taste. We thought it extremely high toned, and it lasted for several seasons before it failed. I understand that then it was rebuilt in the East End of London, where one might doubt its welcome. It was nevertheless too good a thing to be lost, and I hope that it still remains.

The "Morning Post" building, Aldwych (before additional storeys were added), Mewès & Davis, architects; and (right) Norman & Shaw's Gaiety Theatre.

SOME MUSIC HALLS

Of music halls we used to have a much greater choice than we have now. Halls already there before my reminiscences begin, but which are most sacredly enshrined in my memory as happy resorts, the Empire, the Alhambra, the Oxford and the Tivoli are gone, and so is the Holborn Empire. The Hippodrome and the Metropolitan still remain. I could tell you a good deal about all these houses, but will content myself with a few notes upon points that may not be recorded by others.

The Empire, in the main a building by the elder Mr. Verity, retained a narrow façade of a former house designed by a French architect in rather coarse unappetising neo-Grec; so if you see a postcard of Leicester-square in the old days and know he designed the inside, do not blame him for the façade. The Alhambra was as oriental as its name and had been designed as a more or less educational building for exhibitions of various kinds. It did not stay exactly like that! The south side of the Oxford, between the stone dressings of the architecture, was entirely covered by green glass mosaic, which kept clean and looked well. Nothing else was notable. It was redecorated when Cochran took it over. The Tivoli in the Strand was exceptionally ambitious inside and out. Outside, the architect, Mr. Walter Emden, had tried his hand with a really large order, running through two storeys, of pilasters having their shafts of coloured marble, which weathered rather badly, and gilded bronze capitals and bases. There is glory for you! You can see the Hippodrome for yourselves, but

when you pass it next please note, if you have not already done so, the admirable wearing qualities of the red Mansfield stone of which its façades are formed. It must be nearly sixty years since the Hippodrome was built, and yet you could cut a piece of paper on any of the arrises of the stonework, which is more than you can say of the Portland which we believe to be the only stone that will stand London, except that unfortunately Portland looks much nicer than Mansfield.

There was very great excitement when the Coliseum arrived; that was just before I went up to Cambridge. It was said to be something quite different from anything we had had before, and so—by Jove!—it was. It was built of the then extremely popular material, orange-pink terra-cotta, and in a style that was true Edwardian Baroque, very gay indeed. At first, it was regarded as an inconvenient place by those performing in it on account of its size. I remember a friend of mine, who used to perform there, saying that she thought the management ought to provide her with a taxi from the wings because she could not keep her smile up during the weary run before she got opposite the conductor!

ETHICS OF CRIBBING

There is a story about a well-known architect—I am afraid I cannot remember which at this moment—that his chief assistant had failed to piece together from his extremely insufficient sketches enough to make working drawings of a building until he had discovered in some book of stylistic examples the plates from which the sketches that professed to look so original were obviously derived, if not actually traced. When, with this indispensable guidance, the assistant's task had been a little too perfectly completed, his master looked at him and sorrowfully quoted the words in the first chapter of Isaiah, "The ass knoweth his master's crib."

The question of what could and what could not be called a crib in architecture naturally arose frequently when people worked in revived styles or had carefully cultivated styles of their own. I think our ethical view of the situation was that it was honest enough to crib from San Michele, but not quite so honest to crib from Lutyens' crib from San Michele. I remember generally when I heard the talk of those in the know that I came to the conclusion that it was indeed a wise building that knew its own father.

To-day so many kinds of buildings seem to be built very much upon one model with the same conditions that probably if somebody adopted literally someone else's design it would never be noticed; but in those days it was always considered shameful if you were found guilty of employing a "ghost" or of being a plagiarist yourself.

SWEDISH PUNCH

The profusion of plate illustrations, packed loose into the building papers of that day, provided pin-up favourites which long survived the rest of the issue in which they had appeared. One that I long saw daily myself was a photograph of Martin Nyrop's beautiful town hall in Copenhagen. When the photograph appeared, Scandinavian architecture was little known in England. It was only several years later that here at the Architectural Association, everything became Swedish except language and food, and undoubtedly the reaction from our never very adept or easy Parisianism made quite a nice change. Classical motifs so difficult to handle artfully became ostentatiously artless, a portico without any pilasters behind the columns would slide into place anywhere, if you felt a strong urge to a Venetian Gothic window nobody would say you nay round the corner, and a cornice and a frieze need be little more than a stone shelf with a band beneath punctuated at long intervals by one precious capital letter of a short inscription or perhaps only a star. There must, I think, have been more in all this slightly bony elegance than I saw, because I have since seen innumerable English attempts at its imitation, none of which has anything like the quality of the originals. I have certainly never lived through anything like the furore it created in England, and some of the characteristics we lifted from it are with us still.

I suppose that most architects who have been working during the fifty years of which I am speaking have been continuously puzzled by the difficulty of keeping development in architectural expression in step with development in architectural method; neither hindering engineering experiment by weighting it with obsolete architectural conventions nor running so far ahead into wild fantasies as to put engineering completely out of breath in trying to keep up. The Ritz Hotel, of which I have already praised the architecture, was constructionally interesting also as being the first London building with a steel frame. Steel-framed construction was already well known in the States, and some of the buildings there that were already beginning to scrape the sky would not have been possible without it. A short life was predicted for them by elderly conservatives here, but no one denied that it might be a merry one. All of us who know the teaching of Viollet-le-Duc know that he had dreamt of a mechanical construction rather like a translation of timber construction into iron, which had been tried in one or two places not too successfully as yet, but was barred to us in London by our not being allowed to leave constructional steel unprotected by concrete. The Ritz Hotel was shocking to the purist because it appeared to be constructed exactly in the manner in which a masonry building would be constructed.

Obviously people were not going to be satisfied for long producing Louis Seize arcades and regular ordonnances with high pitched roofs and all that upon a steel frame denaturalised to suit its incongruous covering. The first symptom of a breakaway, it always seems to me, was a return to the system Norman Shaw had inaugurated in the late seventies in his New Zealand Chambers in Leadenhall Street—a system of concentrating the whole of the weight-carrying wall in vertical piers as narrow as they could be made, windows filling the spaces between them with glass divided into storage h horizontal strips of some opaque and with Norman Shaw, usually decorative material.

Later came Selfridge's, the Kodak Building and Adelaide House. After that, people suddenly thought it would be nice to get rid of all vertical features as far as one could by concealing them inside the building where they would be sure to be in everybody's way, the result being that what I call leg-screens became the only stone or other facing externally. This has always struck me as being peculiarly unsatisfactory because of the inconvenience of the internally placed stanchions. Also, as the vertical exaggeration had been extremely unreasonable in refusing to give any architectural expression whatever to the girders supporting floors, this horizontal exaggeration seemed equally unreasonable in denying the existence of any stanchions that would carry one floor on the top of another.

THE HUNT FOR HONESTY

Personally, I came later on to the conviction I have held ever since, which is that it is usually wise to reveal the whole of your steel framing by covering it with some material different in colour, shape in nature, or in any two or three of those qualities, from that used for the mere filling in between. The lines of a well-designed steel frame are very seldom ugly, but they may result in very ugly shapes when they are partly but not completely smuggled away. Under the London Building Act and some by-laws a frame has inevitably to be cased in something, just as a timber structure was very commonly cased in tar. Concrete with or without brick or stone makes thicker clothing than tar does, but there is no reason why it should conceal or destroy the natural shape of the body it covers. And if that body is doing a remarkable feat of balancing or weight-lifting, I feel sure its performance ought to be architecturally emotionalised rather than ignored.

The question that I believe to be one of reason as well as of taste is the desirability or the reverse of giving dominant architectural expression to the structural pattern of steel-framed architecture. To me this question leaves me with no doubt as to the answer. It cannot be reasonable, I think, to exhibit the still remarkable visual effects of modern construction while pushing out of sight the modern means of which those effects are the consequence. Such a proceeding is conjuring, not art.

I have not thought it necessary to leave room for any but the briefest peroration, because I do not see how recollections can be anything but random when a long period has to be covered in a discourse or short chapter. The only theorising I have included has been in suggested explanation of developments I have chosen for recounting. I have avoided discussing architecture of the present day because I have been supposed to be recollecting what may be new to many in my audience rather than commenting upon what is familiar to us all. Theories about the desirable, or the probable,

future I have carefully kept out, although I can assure you that as always my favourite outlook is forward rather than backward. When the young ones in this room have fifty years of work to look back upon I hope they will feel, as I do, that they are just beginning to know how to design and will pray for adequate opportunities to use that knowledge before someone else designs their gravestones.

Vote of Thanks

MR. R. E. ENTHOVEN, in proposing a vote of thanks to the speaker, said: Just one-third of the way through the half-century about which Goodhart-Rendel has spoken I had the good fortune to be employed by him as a junior assistant. Every day he used to come into the office and talk freely to us until the business manager, mindful of the financial side, would bustle in or cough significantly in his room next door. Goodhart-Rendel would then go to his own office and take out his fountain pen and produce highly accurate freehand designs on scrap paper, usually on a module—it is interesting to note that I am talking about the early twenties—of 3 ft. 4½ in.

The fifty years about which he has spoken, as he has said, correspond to his own period of practice, although he had a rather unfair start, because he began to design buildings when he was a boy at Eton. I know from intimate experience that they were detailed with amazing maturity.

Of course, Goodhart-Rendel has his prejudices, but he has a disarming way of making them infectious, and we come to see through, as he himself has seen through the pretty-pretty which justifies the ugly-ugly and sifts the brilliant design from the "cretinous descendants." Due to him we shall all walk around with new eyes, and we are most grateful.

SIR HUGH CASSON: How right Mr. Enthoven was to say that when you have heard Goodhart-Rendel you walk around with new eyes. I do not think there is anybody in this room—or outside for that matter—who could make you walk round London looking at buildings almost for the first time and wondering who built them, and why they are the way they are. He has appeared to me tonight in a slightly new light. I have always regarded him as having spent his youth reading through issues of ecclesiologies and minutes of the Cairns Society. It is terribly interesting to hear him in the words of Cole Porter and the extraordinary little side bits: "I could tell you a good deal about these music halls." One splendid one was, "A friend of mine who was a performer."

I feel I do not know much about turning over a new leaf. My father always said he dreaded being asked to turn over a new leaf. He was terrified of seeing there was nothing there but the index. We can be certain Goodhart-Rendel, every time he comes here, turns over 50 or 60 new leaves, revealing new things about his past, new things about the architecture with which he was concerned and, indeed, in his buildings.

Goodhart-Rendel was saying how the great houses suddenly chucked up their Louis Seize way and went English at a certain period. It seems to me a great pity that people who live in great houses or slightly less great houses do not seem to support any lively taste at all in these enlightened days. I do not know why it is. It is not just a question of money.

Answering this last point, MR. GOODHART-RENDEL said: If you look at the period before my time, the period of Norman Shaw, you will find that he was not the great powerful architect of the landed class. Except for Bryanston he hardly built for what is called the landed gentry. He built for rich shippers. The man who built all the great houses and was called in by all the established people of the period was George Deeley, who refused to exhibit or let any of his designs be published. There was another architect who put the matter more bluntly. He said he did not see the fun of exhibiting and publishing the results of his experience for the benefit of any junior who would copy them as soon as possible. Work was obtained purely by one person recommending to another, and the less you said about it the better you would be placed.

MR. JOHN BRANDON JONES: Something was said about Scandinavian enthusiasm. I wonder whether it should not be coupled with the name of Yerbury. Was not a good deal of it the impact of photography? That particular phase swept first the AA and then every other school afterwards.

MR. GONTRAN GOULDEN: On the Ritz Hotel and the lack of maintenance which has been necessary, it may be remembered that at one point quite recently the steelwork on the ground floor section gave a great deal of trouble. Much of the stone spalled off the arcade and it had to be replaced. It must have been a considerable expense. Does Mr. Goodhart-Rendel know whether it has gone in any other buildings of the same age and not particularly in that arcade?

MR. RICHARD CLOUGH: The steelwork at the Ritz Hotel was in fact encased in breeze concrete. In the room where the ice is broken up for putting into the champagne buckets the water got into the concrete and the steelwork was corroded.

MR. JOHN SUMMERSON: I do not think we saw a single Gothic building on the screen. I would add a little more to Goodhart-Rendel's burden this evening and ask what he thought of that very young man with the somewhat familiar name of G. G. Scott, who was in the competition for Liverpool Cathedral. Did Goodhart-Rendel and his contemporaries think it really *vieux jeu*? Did it interest them at all?

MR. GOODHART-RENDEL: I left out all the Gothic business because I was trained as a Gothic man. My master was a Gothic man. I did more churches than other things, and I did not consider most people were much interested in churches. I had a prejudice about Liverpool Cathedral. I thought Charlie Nicholson had an excellent design but Giles Scott got it. But he said, "God knows what it will be in the hands of the old lot who are going to do it." Otherwise, he thought it was the better design, but he did think it was scene painting. He saw the cleverness but he did not begin to like it. He would not hear any adverse criticism against its being first-class of its sort. That is what a good many of us felt who had links with people like Charlie Nicholson.

AN LMBA LUNCHEON

Bright Future for Building

COMPLIMENTS to builders in general and the LMBA Central Area No. 3 in particular was paid by SIR HAROLD WEBBE, MP, at the Area's annual luncheon held at the Connaught Rooms on Tuesday. Their reward for a splendid contribution would be at least another 20 years' full employment, he thought. But his praise did not extend to those modern architects building in the City, of whom, said Sir Harold, he was frankly scared. Their tendency to create excrescences would only be calmed by the ordinary folk and the City fathers who refuse to permit those of their designs which reflected the tortured and unhappy influences of our time. Meanwhile, the builders' contribution should come through improved management.

MR. HOLLOWAY, President LMBA, who responded, said that the main obstacle in the way of building efficiency was that the builder did not know how many bills of quantities (each requiring pricing within three weeks and a start made on the job almost the day after that) were going to fall through his letter box each morning. Teamwork could not be built up that way. He instanced a case in Buckinghamshire where a school had been built in six months, simply through co-operation between architect and builder. Until there was a great change in architects' methods the only way in which building could be cheapened was by improved management by builders themselves.

MR. L. MULLEN proposed the health of the guests and MR. G. L. DOWNING responded Mr. F. L. Baker, FIOB (chairman) presided.

NORTHERN POLYTECHNIC

Building and Surveying Prizegiving

THE Northern Polytechnic at Holloway, London, on December 7, held a prizegiving for students in building and surveying. The proceedings were opened by Mr. R. L. Roberts, CBE, MA, Chairman of the Governing Body, who called upon Dr. T. J. Drakeley, CBE, DSc, Phd(Lond), FRIC, Principal of the Polytechnic, for a report of the work of the department.

DR. DRAKELEY, deputising for Mr. T. E. Scott, CBE, FRIBA, Head of the Department of Architecture, Surveying, Building and Interior Design, who was ill, gave a short speech with a theme that good craftsmen make for a good industry.

MR. L. J. HOLLOWAY, FIOB, president of the London Master Builders' Association, who presented the prizes and certificates, congratulated the successful students and their instructors. He then said that the prizewinner had an added responsibility in that he had excelled over his fellows. The "sky's the limit," he said, in Britain's most prosperous industry, for people willing to work and study. Mr. Holloway concluded with a reference to the machine. He said that practical work with the hands was essential training for working machines, and more machines were coming into building. Mr. Holloway asked, with permission of the chairman, if a message could be sent to Mr. Scott, wishing him a speedy recovery.

MR. W. A. MACKRIDGE, FIOB, London Regional President of the Federation of Master Builders, moved a vote of thanks to Mr. Holloway and to the Chairman.

After the prizegiving an exhibition of the students' work, showing many interesting aspects of their crafts, was held.

The following students were awarded certificates: Certificates of the City and Guilds of London Institute: Brickwork.—Intermediate (second class): G. O. McDonald, A. P. McNeice, J. R. Ruddock. Final (second class): G. Thomas. Plumbing.—Intermediate (first class): A. W. Burroughs, C. E. Borrett, J. W. Goodman, F. J. Mason, E. C. Prince. (second class): B. I. Ballantyne, J. A. Phipps, D. B. Woodward. Final (second class): R. Blain, J. R. Dovey, W. H. O'Dowd. Carpentry and Joinery.—Intermediate (first class): R. G. Greasley, W. G. Jacobs, J. F. Keen, B. M. Lee, K. R. Stannard. (second class): M. J. Harris, A. G. Hickford, J. W. Locke, H. J. Mason, S. J. Mullins, P. D. Munden, T. O'Shaughnessy, A. Stone, B. D. Streather, J. H. Thain, R. S. Twigg. Final (first class): R. N. Court, P. J. Eckers, W. H. Schmidt, G. E. Trevillion. (second class): S. W. Hoy, N. W. Martin. Painting and Decorating.—Intermediate (first class): J. E. Shaw. (second class): R. E. Abbott, M. E. Brunel, A. C. Bryant, P. Green, K. R. Pearce, V. Roels. Final (second class): C. W. Stirling. Builders' Quantities.—Intermediate (first class): A. G. Cruse, F. J. Lush. (second class): B. W. Bandy, D. R. Kirner. Final A (second class): K. G. Doust.

IN PARLIAMENT

From Our Parliamentary Correspondent

Housing and Monetary Policy: The Chancellor's Defence

BOTH Mr. Butler and Mr. Sandys were in the Parliamentary "dock" in the House of Commons on December 6 to answer for the effects of their policies on housing, but only the Chancellor managed to get in the witness box to endure cross examination.

MR. BUTLER met fierce criticism of the outcome of his decision that local authorities should use the money market to raise money for the financing of developments, including housing schemes. Much of that criticism arose from the reactions of the market to the recent application by the Glasgow Corporation to float a loan of £5m.

While sympathising with local authorities over the consequences of his action, he was adamant in his refusal to accede to Opposition demand to reverse it and return to the previous procedure by which local authorities obtained their finances through the Public Works Loans Board. He gave a flat, unequivocal "No" to Mr. William Hannan and two other Labour members who urged him to restore such freedom to the local authorities.

The Glasgow loan was the first made under the new procedure, and it was in the final stage commercially underwritten by the market. Glasgow would not suffer. He realised the difficulties that had been created for local authorities, but in the national interest it was, in his opinion, essential to make a change in the method of financing local authorities.

The Chancellor was also asked what slackening there had been in the rate of initiation of industrial and commercial building projects since October 26, but he said that it was too soon yet to say with any certainty what the trend was.

MR. ROY JENKINS asked the Chancellor if he would agree that the system of building licences, at any rate for larger projects, would enable him not merely to select but to see where he was going.

MR. BUTLER said that he was aware that industrial and commercial building had increased. He could not give exact details because information about new starts was collected in arrear, but he would give statistics directly he had them.

MR. HAROLD WILSON asked if the Chancellor was aware that some of the projects were of great national importance, others were a completely unjustified call on present building resources. Would he not agree that some current commercial building operations were far less important than some of the public building which was being cut by his policy?

MR. BUTLER said that it was easy to make generalisations without supporting them with specific instances. If Mr. Wilson liked to put particular cases before him they would be investigated.

Other Housing Questions

MR. ARTHUR LEWIS asked the Chancellor whether, from the commencement of the next financial year, he would make facilities available to local authorities for drawing interest-free loans from the Treasury for housing purposes, up to a specified annual total.

MR. BUTLER.—No.

MR. DRAYSON asked the Chancellor if, in view of the alterations in the method of local government borrowing, he would introduce legislation to confer trustee status on loans issued by urban and rural district councils.

MR. BUTLER.—Some of these authorities already have trustee status for their loans. Proposals to extend it to all of them were announced on July 27 by the Financial Secretary to the Treasury. The proposals have since been agreed with representatives of the local authorities and will be the subject of legislation when opportunity offers.

MR. GIBSON asked the Minister of Housing and Local Government whether he was aware that some London housing authorities were finding it difficult to get tenders put in by building contractors for their house-building work; and what action he was taking to assist local authorities to get their house-building programmes completed.

MR. DUNCAN SANDYS, in a written reply, stated.—I have seen a reference to one such case in a newspaper. But, so far, no London housing authority has approached me on this matter.

ABANDONED SCHEMES

MR. SORENSEN asked the Minister of Housing and Local Government how many local authorities had intimated either the probability or intention of abandoning rehousing schemes other than for slum clearances; and approximately how many rental houses were covered by that intimation.

MR. SANDYS.—The number of authorities concerned is 17; and the number of houses affected is in all about 500.

MR. SORENSEN asked the Minister of Housing and Local Government what further consideration had been given to the problem of applicants on municipal housing lists, as in the borough of Leyton, who were aware that no local accommodation could be available for them, but who might be accommodated elsewhere if they were permitted to be considered by other authorities; and what information he had of any joint scheme of local authorities by which urgent rehousing cases in one municipal area were accepted for rehousing in another area.

MR. SANDYS.—I am encouraging local authorities, in congested areas, to make more use of the Town Development Act, 1952; and the Bill now before the House offers higher subsidies for houses built for this purpose. Leyton borough and other Essex authorities have a joint scheme for building houses at Brentwood and Billericay; and other sites are under discussion.

MRS. JOYCE BUTLER asked the Minister of Housing and Local Government, whether he was satisfied that all the totally unfit dwellings throughout the country had been included in the latest returns by the local authorities; and what action he proposed to take to ensure that all such dwellings were included in the returns.

MR. SANDYS.—I am satisfied that local authorities generally have made the best estimates they could. In any case of doubt, I am communicating with the authority concerned.

MR. HAMILTON asked to what extent the Government policy of a slowing-down of investment programmes applied to new town development corporations.

MR. BUTLER.—Development of the new towns is to continue in step with the movement or expansion of industry in and around each of the towns.

MR. HAMILTON asked for an assurance that the slowing down of the new town of Glenrothes had nothing to do with the policy announced in the Budget and whether it was coincidence that five days after the Budget the Minister of State had told the Fife County Council that house building in Glenrothes would have to cease forthwith.

MR. BUTLER said that he realised the importance that Mr. Hamilton attached to the matter, but with his permission he would like to examine the facts in his question and write to him.

MR. WOODBURN urged the Chancellor to bear in mind that there was disturbance of mind among the miners they were trying to transfer because of apprehensions that the new towns might not develop as was expected. He might also investigate whether there could not be a re-creation of the advance factories because it seemed to be the only way in which new industries could be attracted to the new towns.

MR. BUTLER said that he was not clear that the apprehensions of Mr. Woodburn were well founded, but he would give an assurance that they would be investigated.

MR. HAMILTON asked the Secretary of State for Scotland what would be the estimated saving in expenditure in the new town of Glenrothes consequent on the recent change of policy.

MR. JAMES STUART, in a written reply on December 6, stated.—There has been no change of policy. All that is involved is a slowing down of the building programme which is at present running considerably in advance of the movement of miners into the area. I hope that the need for this slowdown will prove to be only a temporary one, and I have made it clear to the Development Corporation and the County Council of Fife that there has been no departure in any way from the original conception and purpose of the new town.

He added, in another reply, that the anticipated growth of the population of Glenrothes would depend primarily on the extent to which miners transferred from other areas to the East Fife coalfield, and, in particular, to the Rothes group of pits.

MR. JOSEPH SLATER asked the Minister of Housing and Local Government what would be the maximum population in the new town of Newton Aycliffe.

MR. SANDYS.—The present figure for planning purposes is 10,000. I am considering whether some increase would be justified.

DIFFERENTIAL RENT SCHEMES

MR. GEORGE JEGER asked the Minister of Housing and Local Government what advice he had given to local housing authorities on the introduction of a differential rent scheme.

MR. SANDYS.—A report of the housing management sub-committee of the Central Housing Advisory Committee (which dealt in particular with methods of fixing rents, and gave particulars of various forms of differential rent schemes) was sent to local authorities by my predecessor in November 1953. I am considering what further advice might usefully be given on this subject.

LOCAL GOVERNMENT

MR. ARTHUR SKEFFINGTON asked the Minister of Housing and Local Government when he would be able to make a statement about the future of local government.

MR. SANDYS.—After Christmas.

COASTAL FLOODING

COMMANDER MAITLAND asked the Minister of Housing and Local Government what action he proposed to take to carry out the recommendations of the Waverley Committee on Coastal Flooding so far as they affected his department.

MR. BRAINE asked the Minister what action was being taken to investigate the practicability of a structure for intercepting tidal surges in the Thames as recommended in the Waverley report.

MR. WILLIAM DEEDES, Parliamentary Secretary, Ministry of Housing and Local Government, in a written answer on December 6, after referring to the statement made by the then Home Secretary on June 3, 1954, in which the Government's attitude towards the committee's recommendations and the action they were taking were indicated, stated. As for the specific problem of flood in the Thames, the practicability of building a structure across the river, together with the possible alternative of increasing the height of the river walls, are being actively examined by the Government departments and other bodies concerned.

MR. AWBERY asked the Minister of Housing and Local Government if he was aware of the delays in the building of a large block of flats in Redcliffe Ward, Bristol, because of the shortage of steel; and if he would take steps to accelerate the supply of steel needed for foundation reinforcement work so that this essential work could proceed.

MR. SANDYS.—I understand that the reinforcing steel needed is now available.

AFRICAN HOUSING

MR. JAMES JOHNSON asked the Secretary of State for the Colonies on December 7 if he was aware that the housing being built for Africans at Nakuru, Kenya, this year, included 500 rooms for 1,500 single men, and 22 two-roomed houses; and whether he would advise the Kenya Government that the proportion of family houses for African workers should be increased.

MR. LENNOX-BOYD in a written reply stated.—No. The Nakuru African housing scheme during the current financial year is to complete 272 single rooms, each capable of housing three single men, and 22 two-roomed houses. The single rooms can easily be converted into two-room family dwellings if required, and a scheme for a further 92 family dwellings is under consideration. The provision of family accommodation is therefore not being neglected.

MR. DODDS asked the Secretary of State for the Colonies, what progress had been made in dealing with the housing shortage in Gibraltar.

MR. LENNOX-BOYD. — Since 1945 the Gibraltar Government have constructed over 800 permanent and 550 temporary dwellings at a cost of more than £3 million. The first 48 of the 328 new flats to be built during the next five years are nearing completion. The current building programme should meet the most urgent needs of the colony.

FASS ANNUAL LUNCHEON

Dissatisfaction with Contract Documents

THE need for a revision of contract documents to do justice to sub-contractors was brought to the attention of Mr. Nigel Birch, Minister of Works, who was the principal guest, by the president, MR. P. C. FORD, JP, at the annual luncheon of the Federation of Associations of Specialists and Sub-Contractors, held in London on December 8.

Proposing the toast of "HM Government," Mr. Ford said: "For some years I and my colleagues on the Council of the Federation have been increasingly concerned at the state of the industry's contracting system."

On the one hand, a number of unauthorised sub-contracts had appeared, prepared by individual firms of contractors. On the other at least as many sets of trading conditions had been produced by sub-contracting firms and organisations for themselves. This practice should be stopped.

"So far as private work is concerned, I and other representatives of my Council have already made known our feelings to the RIBA, the RICS and the NFBTE, through our liaison arrangements with the Joint Consultative Committee of Architects, Surveyors and Builders.

"There remains, Sir," said Mr. Ford, addressing the Minister, "the work placed with us by Government Departments on terms drawn up by themselves. The metamorphosis from the pre-war Office of Works to today's Ministry has made you not only one of our largest customers but the Minister to whom we look, as sponsor for the industry, to foster our interests and defend our position in relation to other Government Departments.

"I am afraid the terms which Government Departments have devised for the contracts placed by them encourage an unsatisfactory state of affairs. First, they are certainly insufficient as regards sub-contractors. Departments make a very great use of the services of specialists; but once they have nominated a firm, they consider it justifiable to wash their hands of further responsibility. They have refused to introduce into their general conditions of contract that degree of protection which has been commonplace in the other accepted forms of main contract for a quarter of a century or more. There is no reason why a specialist firm which has tendered direct to a Ministry, and has been asked by them to accept nomination to the work, should be denied the protection customarily accorded them, should the main contractor fail; and in this respect I have no hesitation in describing HM Government as falling short of the standard we expect from a good employer."

Secondly, went on Mr. Ford, the conditions used by Departments were such that the negotiated standard form of sub-contract was not readily to be used; yet Departments had not been willing to take the logical step of formulating a sub-contract appropriate to CCC/Works/1, and, the standard sub-contract not being appropriate, the way was left open for those irregular forms of sub-contract and conditions of tender which he had already stigmatised. "Our members find that they are asked to submit tenders to Departments upon the terms of the general conditions of Government contract. They do so; but, when the order comes, those terms are linked with additional stipulations by the main contractor. The two together form a sub-contract of a very different nature and one on which in many cases, a very different tender would have been submitted.

"Some day we hope there will be one standard form of building contract, linked with one standard sub-contract. However, that millennium is still distant, will you not intervene to assure that, as on the private side there are a properly thought out main contract and sub-contract, so for public works there should be also a linked pair of contractual documents, equitable to all and effective in the safeguards they offer."

MR. BIRCH, in his response, said that he had been impressed at the recent Building Exhibition by the progress shown by the industry and the amount of "new staff coming in." It appeared that every prospect pleases, except the Services Departments!

He could not answer Mr. Ford's questions on contract matters fully on this occasion, but he gave an undertaking to give the matter careful consideration. In deciding on the form of sub-contract there were, he pointed out, others besides themselves concerned, but he did not see why a reasonable solution should not be reached in the matter.

WAGES AND THE CREDIT SQUEEZE

Dangers of Excessive Claims

MR. T. RILEY, chairman of the Federation of Master Builders' National Council, speaking at the annual dinner of the Tynemouth and District Branch, at Whitley Bay, Northumberland, on December 1, said that very soon negotiations would begin on the operatives' claim for a 6d. an hour increase in basic rates. There were, in to-day's conditions, factors which must be borne in mind when considering wage negotiations.

"First," he declared, "there is a credit squeeze—a subject for much humorous comment up to now, but likely to become a serious problem in the next three months. *The Times* has remarked that between September and October bank advances fell by £17m. compared with a reduction of £204m. between June and September. The third and tough stage is upon us, and if the banks aim to reduce advances by 2 per cent. each month, the squeeze will really hurt.

"There are also pending at the moment wage claims involving about 7m. workers—in engineering, shipbuilding, railways, coal, chemicals, electricity supply, as well as in our own industry. If all these receive the substantial increases demanded, where do we go from here? Presumably round the mulberry bush again.

"No one will deny that 1955 has been a busy year for the building industry, that business was good, and output as a whole fairly high. But earnings have also been high, even ignoring the amounts that craftsmen are getting for odd jobs in their own time. But the industry is not negotiating wages for 1955. What lies ahead is the important thing. The problem is often expressed as 'the danger of pricing ourselves out of the market.' The real danger is that we might unwittingly help to pull the market to pieces."

HOLIDAYS MANAGEMENT SCHEME

Chairman's Review of Year's Working

SIR FREDERICK LEGGETT, KBE, CB, independent chairman, referred to the "very difficult year for the administration owing to the coming into force of the two weeks' holiday period and the deferment of the period for direct payments from February 1 to March 31 instead of, as before, October 31 to December 31," in his address to the annual general meeting of the Building and Civil Engineering Holidays Scheme Management, Ltd., held in London on December 5.

Continuing his review of the year ending March 31 last, Sir Frederick said that during the year 81,765,413 stamps were sold, an increase of 3,490,210 over the previous year. The value increased from £15,802,164 to £17,132,199. Some 2,500 employers responded to the invitation to make early application and to send a post-dated cheque to be paid in towards the end of March, when the stamps were despatched. This procedure was helpful both to the administration and to the employers.

As was to be expected, more contractors' reimbursement claims were received during the year, in fact, 17,000 more. Of the total number, 32,642 or 19.6 per cent. were incorrect. The most common errors were incorrect listing of operatives and cards submitted without signatures. Often the claim made had been for much less than the amount really due and this, of course, had been put right by the office check.

Without taking into account payments actually made in April, direct payments to operatives increased by nearly 23,000.

The number of cards submitted before time continued to increase. In the year under review the number was 200,481, the number in the previous year being 136,082. All these cards had to be returned to the sender and, even at ordinary postage rates, the cost to the administration was over £2,000.

PUBLICITY FOR SCHEME

"In regard to this and other aspects of the scheme," Sir Frederick continued, "there is obviously a need for all possible steps being taken to make all concerned aware of the principles of the agreements. In order to assist in this the finance and general purposes committee has decided to take special steps to give publicity in trade papers and trade union journals. In regard to this I should like to show recognition of the co-operation already received and of the articles which have appeared from time to time on the working of the scheme. It is highly appreciated, also, that many more visits have been paid to the office and we know that these have been most useful in increasing the knowledge of the complexity and the volume of the administration's task.

"While the cost of administration increased, the percentage expense ratio is the lowest on record, 0.701 per cent. of the turnover, i.e., just under 1¾d. in the £1. The increased cost has been mainly due to the introduction of two weeks' holiday which has been reflected in such items as salaries and wages, all-risks insurance premiums, printing, stationery and postage."

There had been, however, an increase of gross revenue over the previous year of £118,347. Of this increase about £100,000 came from interest on investments and about £18,000 from administration charges on the two holiday cards. The effect, after payment of income tax, had been to replace the deficit last year by a credit balance.

"TRADING IN STAMPS"

"The mention of income tax is a reminder," the speaker continued, "that the Inland Revenue, after two years, have decided to press their claim that the company is trading in stamps. To the layman this is an odd way in which to describe the Holidays Scheme in which all the income received must be devoted to payment for holidays, or activities concerned with the provision of holidays. One can only regret that no political party has yet shown any disposition to distinguish a scheme based on the recommendations of a Government Committee, and a high example of industrial self-government, from an ordinary profit-making company. Indeed, it seems that, far from trying to assist this voluntary scheme, the aim is rather to invent some means of hampering it.

"In such circumstances . . . the first necessity is to settle the question of principle whether, in fact, the company is trading, and we propose to take all proper steps for defending our position.

"In so far as balances are invested, income tax is payable, as in the case of other organisations which invest their funds, and we do not quarrel with this. During the year the sum so paid, and shown in the administration account, was over £130,000. The increase in the value of the stamps increased the amount available for investment but, of course, there is always the liability to repay this."

Referring to the Board's Investment policy, Sir Frederick said: "I am glad to be able to assure members that our funds appear to be fully safeguarded in the circumstances in which the company has to operate. In present-day circumstances our experience enables us to sympathise with those responsible for the immense pension funds investments. All of us, however, must look with much disquiet at the possible effects of continued inflation on trustee securities. That is a problem to which the management board must continue to give close consideration.

"In connection with the safeguarding of funds, I must refer with great seriousness to the need for every employer and operative in the scheme to realise that, with the greatly increased value of stamped cards, there should be the utmost vigilance to prevent fraud. Operatives who foolishly sell their cards to unscrupulous men, and those who buy stamps from them, threaten the whole scheme. Those who buy such stamps are themselves condoning a fraud and when they seek payment from the company may be charged for attempting to obtain money by false pretences. At the best they will lose the money they have paid. I have here a list of cases over the past few months in which court sentences such as three years' imprisonment and fines and costs up to £1,000 have been inflicted. The danger to the whole scheme is so serious that leniency cannot be expected.

"It is relevant to this subject to refer to the desire sometimes expressed for a franking system instead of stamps. This scheme is entirely different from National Insurance in that we have to pay the full sum due on demand. In spite of close consideration we have not yet found a means by which a franking system can be made safe."

The accounts show that at March 31 last the redemption value of the company's investments stood at £16,320,000 compared with £14,985,838 in 1954.

SHEFFIELD UNIVERSITY

Creation of "Academic Quarter"

THE NEED of developing an academic quarter of Sheffield was stressed by DR. J. M. WHITAKER, the Sheffield University Vice-Chancellor, at the annual meeting of the Court of Governors of the University at Firth Hall on December 9. He said that the university on the edge of Weston Park, with the city museum and the Mappin Art Gallery on the other side, and with a boating lake and playing fields all within the academic quarter, formed an attractive and dignified neighbourhood less than a mile from the town hall.

He went on: "In fact a complex such as we admire in Cambridge—and you must pardon a native of Cambridge and a Cambridge man in seeing the ideal in that university."

"Cambridge," he said, "has achieved a complete fusion of the town and the university to the great advantage of both. Now I believe that at Sheffield we have a unique opportunity of doing something of the same kind, and have already gone far to achieve it."

He said that the university was not just stealing a piece of Weston Park to build their library, for the university would throw back into the park a greater area than it had gained from it. Weston Park would be enlarged and there would be a most imposing building on the edge of it.

The whole area of what he termed Sheffield's academic quarter amounted to something like 50 acres, an area comparable with that of the entire medieval city of Cambridge, which contained all but one of the medieval colleges.

OBITUARY

Herbert Ogden

MR. HERBERT OGDEN, the Sheffield architect, who retired 15 years ago, has died at his home, Springfield-road, Sheffield, at the age of 83. He was responsible for the design of many Sheffield works and buildings, including the Jewish Synagogue.

Phoebe Stabler

WE regret to announce the death of MRS. Phoebe Stabler, FRBS, the sculptress and ceramic artist, in London, on December 2.

Mrs. Stabler studied at Liverpool University and the Royal College of Art, South Kensington, and besides sculpture and pottery she had a large output of black and white work.

Her chief works were executed in faience, frequently salt-glazed, the Durban War Memorial (1914-18 War) being a bold experiment in this material. Together with her husband, the late Harold Stabler, and with John Adams at the Poole Pottery, she developed the characteristic quality of her work which made it appreciated not only in this country but on the Continent and in America.

The Builder Review of PLANT & MATERIALS

INTEGRATED CONSTRUCTION

A TECHNICAL booklet giving details of their Mark VIII integrated system of prefabrication is produced by Seco, Ltd., 11, Upper Brook-street, W1, and Part 1, entitled "General Planning," has now been published. The system is sub-divided into four different designs which can be used individually or in combination. These four variations are based on a 40-in. planning grid, and all components are standardised and factory-made so that the only wet operation necessary is the provision of foundations and site concrete. Walls and roofs are formed of Seco panels comprising a monolithic core of woodwool cement bonded to Flexi-asbestos cement facing sheets allowing immediate decorative treatment. Where multi-storey buildings are being erected, the floor slabs may be laid to provide working surfaces immediately the frame is erected, thus obviating elaborate scaffolding. Early weather protection is possible by laying the roof panels and covering. The system allows cellular, plywood-framed or steel-framed construction in single storeys, and also multi-storey steel-framed construction. Part 2 of the booklet, shortly to be issued, will provide full technical details.

NEW PLASTICISER

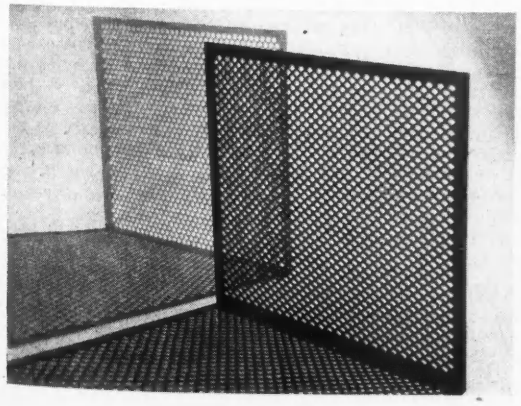
A new plasticising agent which is claimed to frostproof, waterproof, and rapidly to harden concrete and cement work has been introduced by FEB (Great Britain), Ltd., 102, Kensington High-street, W8. "Febspeed Plus," as it is known, has a combined chemical and physical reaction in concrete or cement mortars, and accelerates hardening, causing a rise of temperature in the mix. Air bubbles are entrained in the mix, which act as expansion chambers for the water content as it freezes. An interesting experiment carried out recently involved two sets of test cubes (one part cement: four parts sand). One set was treated with "Febspeed Plus," the other was untreated. Both were placed in a refrigerator while the mortar was still in the soft and unset state, and subjected for a long period to a temperature of 18 degrees of frost. The results showed that the untreated cubes, after de-freezing, were as soft as when first mixed. Hardening slightly over a period of three days, the cubes then cracked and spalled and were well below constructional strength. However, the treated cubes after de-freezing set hard and were of normal strength.

INTERIOR PAINTS

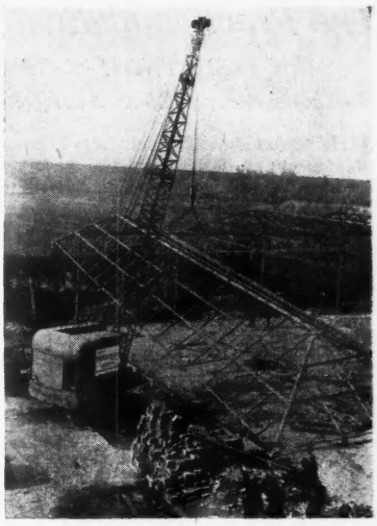
Two new paints for interior decoration are being marketed by Walter Carson and Sons, Ltd., Lombard-road, Battersea, SW11, under the names of "Ultralux Eggshell Finish" and "Ultralux Flat Finish." The eggshell finish dries about midway between full gloss and dead flat, and provides maximum light reflection without glare. Both paints are washable and resistant to steam and condensation, and although more than usually full-bodied in consistency, do not require thinning before use. They should be applied as ordinary paint, and on smooth, non-porous surfaces a spreading rate of 90 sq. yds. per gallon can be obtained. When repainting surfaces in sound condition, no undercoatings or special primings are required, and it is understood that either finish can be applied direct to surfaces of uneven porosity without fear of patchiness.

BUILDING AIDS

A useful folder containing details of their "Robel" building aids and services has been issued by David Roberts (Engineers), Ltd., 58, Petty France, SW1. This organisation sets out to introduce new and improved methods which can help to improve construction efficiency, and specialises in high-speed semi-automatic handling of aggregates and concrete; vibrating and compacting machines; concrete formwork; scaffolding; as well as road construction and block-making machines. Of particular interest is the "Robel" unit-frame scaffolding system, which has a simple, "drop-in" corner clamp to locate ledgers instantaneously. It also permits the alternative use of angles and tubes as ledgers, so that the angles can be lapped to avoid waste, and to aid storage and transport. Angle section can also be used to stiffen the structure for excess loading.



These decorative panels have been stamped from a special type of rigid PVC sheet which can be perforated in almost any design for the production of grilles, screens and decorative panels. Developed by British Geon, Ltd., Devonshire House, Piccadilly, W1, it is understood to be one-fifth the weight of mild steel, and is available in a wide range of colours without the need for such finishing operations as painting or buffing, since it can be supplied with a high gloss finish on one or both sides.



Claimed to be the first prestressed steel roof construction built in this country is that used for the new College of Further Education at Wigan. Designed by H. V. Lobb, FRIBA, and G. Grenfell Baines, ARIBA, AMTPI, with F. J. Samuely, AMICE, as the consulting engineer, the building was roofed with an exceptionally light structure of 90 ft. span and 80 ft. length. The total weight of steel was approximately 12 tons (3¾ lbs. of steel per sq. ft.) and the roof was assembled on site and lifted into position by crane. The general contract was carried out by Leonard Fairclough, Ltd., the steelwork being supplied by Sommerfelds, Ltd.

TRADE NEWS

READY-MIXED CONCRETE DEPOT

Site work has begun at Hardgate-road, Shieldhall, Glasgow, for a new depot for Jaeger System Concrete, Ltd. This depot is to have continuous-operating plant for the production of ready-mixed concrete, remote controlled from a central panel on a time cycle basis. The plant is an improved version of a system developed in Germany, and by continuously mixing a small and correctly proportioned ribbon of concrete, instead of intermittently mixing a large batch, is understood to yield better-quality concrete. Outputs of 400 cu. yds. per day are expected.

NEW COMPANIES

The four main production branches of Doulton and Co., Ltd., are to operate as wholly-owned subsidiaries as from January 1, 1956, although overall control will continue to be exercised by the managing director of the parent company from the head office at Doulton House, Lambeth, SE1. Whieldon Sanitary Potteries, Ltd., will be renamed "Doulton Sanitary Potteries, Ltd." and will control sanitary earthenware, vitreous china and fireclay ware made at the Whieldon potteries and Dudley fireclay works. A new subsidiary "Doulton Industrial Porcelains, Ltd." will control electrical porcelain, general stoneware and industrial ceramics produced at Wilnecote Works, Tamworth, while another new company, "Doulton Vitrified Pipes, Ltd." will control drainage goods and conduits manufactured at Erith and Dudley pipe works. "Doulton Fine China, Ltd." will control fine tableware and figures made at Burslem Works.

The Practice of Inviting Competitive Tenders

SIR THOMAS BENNETT'S ADDRESS TO RICS JUNIOR ORGANISATION

THE following address, by SIR THOMAS BENNETT, KBE, FRIBA, on "The Practice of Inviting Competitive Tenders," was given at a meeting of the Junior Organisation of the Royal Institution of Chartered Surveyors on November 16. Sir Thomas Bennett said:—

In recent years there has been continuous criticism in the building industry of the method of inviting tenders for contract work. This has been accompanied by complaints from the builders themselves of the cost of tendering and a statement that it is one of the factors that adds to the cost of building. It is important, therefore, fully to realise why the building industry retains this practice and why it is not replaced by an efficient alternative.

Comparison is necessary first with other industries. In almost all the remaining industries of the country the article required by the public is produced and put on the market in a completed form. In this case the public is able to judge the value of the article by inspection and trial, and the cost is corrected by competitors who attempt to improve upon the performance or reduce the cost, as the case may be. In the building industry a very limited part of its output is in this category. It is clear that the speculative builder who builds houses for sale, the developer who erects shops without tenants, and in certain cases builders or developers who build factories on the same basis, offer to the public a completed building with the price attached to it, and this in itself forms a sufficiently stabilising factor to ensure that the cost of the building is at the proper market level, and competition ensures that that level is as low as prevailing circumstances permit.

The rest of the building in the country is designed by architects to a specific shape, pattern and finish. There is no obvious criterion which is a sound basis for measurement of the cost of the building. So long as competitive tendering remains in force, quantity surveyors and architects are able by analogy to provide estimates of cost. I would hazard a guess that in recent years these estimates have become more accurate and have been more seriously treated than they were in a former, richer age. Nevertheless, tenders still vary substantially between building and building and amongst different firms tendering for the same building.

ASSESSMENT OF COST

In considering the principle of tendering, it is important to realise fully the contingencies which the builder has to assess. These include availability of labour, use of plant, difficulties of access, of delivery and storage, the smooth flow of information, correct letting and co-ordination of sub-contracts. These factors are outside the precise cost of the method of construction and finish used in the building itself, so that substantial decisions must be made by each individual contractor who is concerned with the cost of producing the building in question, the extent to which it fits in with the volume of work passing through his business, and a number of other factors. This feature of tendering in competition, therefore, takes the place in other industries of judgment and selection by the buyer of the completed article.

In spite of criticism of the method, no alternative of general application has so far been produced, and it would be safe to say that the alternatives used of negotiated tender, target and fixed fee contracts, would all be unworkable if they were not subject to the constant correction of the tender as we know it.

DAY WORK

At first sight, a contract based on the cost of labour and materials, to which is added a fee for the contractor's organisation and management, would appear to give the building owner the benefit of obtaining a building at the lowest possible cost. In practice, this is open to severe objection:—

(a) Because the building owner has no real target cost at the commencement of the contract which carries with it a penalty if the cost is exceeded.

(b) Since a large proportion of building work is represented by the cost of organisation and the method employed, the financial incentive to the builder of high efficiency is missing. It is the universal experience of all those who control day work contracts on a large scale that, whatever the top organisation may do, knowledge that the client pays reaches every intermediate stage, and tight financial control is missing, with the result that the cost of the final work greatly exceeds that of contract work.

These two vital factors cause all serious people to dismiss the day work type of contract as the least favourable to the building owner and the most comfortable for the building contractor.

THE BASIS OF SOUND TENDERING

Having realised all the contingencies which affect cost and the financial burden which the contractor carries, it is clear that sound tenders will only be obtained if rules of tendering are devised which put each contractor on the same footing and by removing as many contingencies as possible. The responsibility of creating these conditions rests with the architect and quantity surveyor. They should be clearly understood.

RULES OF TENDERING

(a) Only firms of equal standing should be put on the tender list. The system of local authorities and others with political reactions who have "open" tender lists, shows complete lack of knowledge of the method by which the building industry is run, is grossly unfair to the sound builders who are tendering, and gives quite unjust weight to cost as distinct from quality. In such a field of competition the man who runs the risk of lowering his standard to the bottom depths will, in all probability, secure a contract. Such tenders are usually accompanied by the phrase that the local authority reserves the right not to accept the lowest tender, but it is equally unfair to the industry to put it to the task of tendering and then reject the lowest tender when it is obtained. The tender lists, therefore, must consist of a list of firms who are know to be sound and reliable, and who have a standing suitable for the type of work which is required.

(b) Accurate tenders cannot be obtained unless good drawings and accurate specifications exist before the quantities are prepared.

(c) There must be extensive site knowledge. Today, this is generally secured by ground exploration survey, small bores into the sub-soil and accurate knowledge of surrounding buildings and party walls.

(d) The majority of contracts for large buildings will have at least 50 per cent. of their work in the form of sub-contracts. The sub-contracts, if not settled at the proper time, will cause serious disorganisation of the builder's work and substantially increase his costs and overheads. It is essential, therefore, that proper steps should be taken to obtain sub-contract tenders either before the bills of quantity are prepared, or sufficiently close after the letting of the contract to prevent the builder's work from being disorganised. There is also the factor that many contractors and sub-contractors work well as a team and others do not. The financial standing of some firms is a great deal better than others, and many firms have advocated the desirability of naming in the bill of quantities the sub-contractors who are to be employed. By this means they are better able to assess the speed at which the work can be done in so far as it rests on the organisation of the sub-contractors.

(e) In a time of full employment like the present, the flow of materials is an important factor. It is essential for the builder when tendering to be sure that his materials will reach the contract when he requires them. This may well mean pre-ordering of stone, steel, bricks or other scarce materials.

TENDERING WITHOUT QUANTITIES

We are informed that the universal practice in America is to tender without quantities. This is an exaggeration of the truth, but the method has been strongly advocated by certain leading contractors in England. The contention is that when the builder takes off his own quantities, he does so in strict accordance with his existing methods of costing and can, therefore, produce a more accurate tender. Clearly this places the big contractor with an advantage over the small one, but in the wider field of economics it must be wrong to take off six sets of quantities if there are six, rather than take off one set with a quantity surveyor. It is also clear that there is much less control over the cost on the part of the architect and quantity surveyor, and the building owner is more liable to have costs placed on his shoulders which should properly be met as part of the contractor's contingency.

It is, of course, well known that in certain cases quantities are dispensed with. These embrace:—

(a) Very small contracts.

(b) Instances where considerable confidence exists between client and one or two builders, and they are prepared to take a builder's price.

(c) The type of contract in which there is a standard unit running

throughout the contracts, such as small houses and building in certain types of standard factory construction. In view of the increasing complaint of the amount of building cost represented by fees, it may well be that greater consideration should be given to methods by which the public could be safeguarded, and the quantity surveyor and the architect could control the building cost without the necessity for the full paraphernalia of quantities as we now know them, and that certain types of contracts could be more extensively let with safety without quantities.

PREPARED SCHEDULES

It has been universally accepted that the best method of obtaining tenders is by means of full drawings, specifications and complete quantities, but a very large number of clients insist upon their work being started in much less time than is needed for the proper preparation of these documents. The profession is, therefore, faced with the necessity of producing a system which will provide for the submission of competitive tenders, safeguard the client and builder, and form the basis of an adequate contract. More time and attention should be given to methods which achieve these ends, but in general most of the necessary safeguards can be secured by scheduled tendering. This necessitates:

(a) Rough quantities. Without such rough figures the builder is quite unable to judge the relative amounts of work of each category he will be called upon to perform. Clearly in some classes of work quantities substantially affect the price.

(b) A full schedule of items must be compiled. If work is parallel to other works which the same architect and client have produced, it is not difficult to produce a full schedule. In other cases this result is not easily obtainable and appreciable omissions leave an open door for certain types of builders to achieve an unjustifiable profit after the contract is let.

It is clear that all contracts let on schedule with rough quantities involve remeasurement and, therefore, some duplication of quantity surveyors' fees of which the client should be informed before the start is made.

It is clear that tendering on schedule with rough quantities places a great deal of responsibility upon the architect and quantity surveyor in preparing the estimate, and in the case of big contracts which are financed from borrowed money, with loans obtained before the commencement of the work, very great responsibility attaches to the professional men engaged since in many cases no increase in capital borrowed is possible when the work is completed, and the client may well suffer appreciable financial loss or be unable to produce the necessary amount of money to pay for the work. As long as we have been able to follow a period of continued expansion, depreciation of money and full employment, these disasters have been non-existent, but as soon as we return to normal times (and they are virtually here) the importance of approximate estimating will again become paramount.

A FIXED FEE

There have been advocates of the fixed fee type of contract on the assumption that the builder should be able to work for a fee just as the architect and surveyor work for fees. Therefore, competition on the amount of fees is all that is necessary. There is a wide gap between the services rendered by industries and those rendered by professions. The aims of the two vary; greater success for the client should be achieved as a result of greater expenditure by the professional man, whereas greater cost is incurred as a result of greater expenditure by the builder. Moreover, if the proper relationship is maintained, the builder is primarily concerned with the profit and the professional man should be concerned with the standard of the execution of his service.

The fixed fee is clearly the smallest part of a client's outlay. The fixed fee, therefore, is much less important than the standard of organisation introduced into the work, the control of cost exercised throughout the contract, and the result of fixed fee arrangements is almost inevitably higher cost to the client. If such contracts are arranged it is of the greatest importance that there should be a full realisation of items which may elude the intention of the contract.

In the early stages of the war certain contracts of this kind were found in execution to embrace such items as the payment of hire charges for plant and equipment, the plant firms being a subsidiary of the contract firms. The same thing applies when a contractor is paid on a fixed fee basis and then arranges for joinery or other subsidiary companies to carry out part of the work on a lump sum basis. In the same way if a target contract is arranged by which the builder shares in the profits under the target and suffers loss if the cost is over the target, it is very difficult to arrive at a target figure which is not sufficiently high to prevent losses from being incurred and to provide substantial additional profit because the work is below the target figure.

ANALOGY WITH ENGINEERING CONTRACTS

With the advent of firms who were primarily civil engineering contractors into the work of building contracting, certain efforts have been made to introduce civil engineering methods into building. These are by no means always successful. In larger civil engineering works it is the custom of civil engineers to establish a site organisation which designs a large portion of the work as it progresses; such engineers have wide practical experience of soils and matters of organisation and, therefore, take a high measure of responsibility for the economy of the methods of construction used. In the case of railway construction, docks, bridges and other large structures, the method works well and there is probably no alternative.

It is not the custom of architects to establish large site staffs, and architectural work is not well carried out by the site method, except in the case of large national establishments such as national filling factories or atomic plants. The engineer controls the cost and overheads in one case, and the architect does not control the cost and overheads in the other. In the war I attempted to run certain types of building work on the civil engineering method and found that for a large variety of reasons it failed to work as well as the architectural method, and it cost more money. I think there is little doubt that both day work and target contracts in building are more costly and less satisfactory than contracts let on quantities priced in the current manner.

NEGOTIATED CONTRACTS

In recent years there has been a substantial increase in negotiated contracts for large works. There are a number of reasons for this. Probably one of them is the fact that in times of over-employment the value of competitive prices is smaller than when work is scarce, and another is the desire of many building owners to start work at an early date feeling that they would rather be in the hands of a contractor of substance whom they know, than submit their contracts on incomplete documents to a firm of whom they have only a slight knowledge.

The negotiated contract frequently carries with it a large "goodwill" element. The negotiation is with companies who are constantly building; the builder has so big a continuing incentive to retain this work that he makes a big effort to give complete satisfaction to the building owner both in standard of work, time of completion and final costs. The building owner, therefore, is in the position parallel with that of the good customer in any other business, and the results are good.

SELECTING THE FIRM

Certain firms establish a reputation, often richly deserved, for good craftsmanship and a high standard of finish, for accurately keeping the time schedules of their contracts, having an extensive knowledge, possibly substantial equipment capable of dealing with special classes of work, having first-class plant available, or having other qualifications for being selected for negotiation, and these obvious advantages may well outweigh any additional costs which may be incurred. In order to negotiate a price certain documents are still essential. The price may be negotiated by one of the two methods previously enumerated—

(a) Full drawings, specification and quantities.

(b) A schedule of prices.

(c) A combination of the two which results in a lump sum.

The more complete the information and the more accurate the drawings, specification and quantities, the more will the negotiated price compare closely with that of the final cost, and on the whole these negotiated contracts are dealt with by people who are surrounded by a very high standard of expert knowledge, who themselves have extensive knowledge and experience of building, and where the whole team has a high technical knowledge.

I generally consider that a negotiated contract costs the client 5 per cent. more than a tender contract in conditions which are generally favourable to tendering, but it would be fair to say that on the whole a negotiated contract is less liable to claims at the end of the contract, and it may be that the margin of the final account is, therefore, closer than suggested by available comparable figures.

All the alternative methods indicated in this paper are only practicable if they are carried out concurrently with tendering of the normal manner, since only by this means can a yard-stick be continually available by which to measure the negotiated, the fee or the target type of contract.

SAFEGUARDS TO GOOD TENDERING

There are certain safeguards which will always be necessary in order that honest tenders may be obtained, the builder who tenders may be protected, and the industry having been subjected to the cost of tendering can be confident that the rules of tendering will be observed. These rules might be shortly stated as follows:

(a) The tender list for the work should be as short as possible, selected from firms of equal standing, with a knowledge of the method by which they normally handle their claims, final account, time schedules and similar extraneous matters.

(b) The tenders should always be opened in public either at a board meeting if a public company or local authority is involved, or in the presence of the builder submitting tenders, the tenders being returned to the architect's office.

(c) It should be universally known that once tenders are invited from a selected list, the lowest tender will be accepted. Clients do immense damage to the industry and to confidence in tendering when they have a favourite builder and are not prepared to face the risk of negotiating with him, ask for tenders and then employ their selected builder either at his tender price in the list or by some method of Dutch auction, by which he carries out work at the lowest price. This fair tendering procedure is of the utmost importance if good tenders are to be obtained.

THE FINAL ACCOUNT

Over a long period tenders are substantially affected by the final account. There are builders who constantly tender on low prices, immediately put an organisation on the contract to "manufacture" extras, variations of drawings, errors in the quantities, and search for other means by which additional money can be obtained. There are other firms who accept the spirit of the contract and only charge extras and make claims where these are unavoidable. The former type of firm should be courageously excluded from tender lists as it will always secure contracts on the lowest price because it makes profits on its method of running the contract.

The other side of the picture is shown by those architects and surveyors who treat fair claims with equity when it comes to the final account. A great many of the costs of building are matters of judgment, and if architect or quantity surveyor abuses this position, clearly the builder must in future tender to allow for it. There is little doubt that architects who secure a reputation for fair dealing on the final accounts of their contracts also obtain keen tendering when they ask for fresh prices.

All of us must acquire the ability to recognise a false tender when it exists—not always an easy matter.

The first method of false tendering is arrangement of prices by the people invited to tender. It is possible that in small towns this is more common than in large. When work is plentiful there may well be a group of contractors who constantly find themselves on the same lists and who apportion the work between them, such as to agree which builder will get a specific contract, allow him to tender at a high price, and arrange for others to send in a still higher figure price. There is no doubt that some measure of this arrangement of prices exists. If the architect and the quantity surveyor are closely in touch with their tenders, they will very quickly find builders who are arranging prices and eliminate them from the tender list. About a year ago I called for the priced bills of three of the lowest tenders as soon as the tenders were submitted, only to find that the third contractor had not priced his tender at all, and, therefore, clearly must have accepted a tender figure from another builder.

THE BUILDERS' CONFERENCE

This is run not so much on the lines of false tendering as on the lines of artificially inflated tenders to cover the cost of tendering and other extraneous losses through the channel of the conference, and not through the channel of successful work. In the early days one of the builders' conferences in another country was found to fail because certain builders managed to get on a large number of tender lists, always inflated their prices so that they avoided the contract, but drew a substantial percentage on tenders from the conference, sufficient as a small firm to keep them without doing any work. This is only one of the abuses to which false arrangements of this kind can lead. It is completely unsound to inflate prices artificially. It is still more unsound to undermine the confidence of the public.

The constant lowering of finished work is another method by which tenders can be false. A substantial contractor once informed me that he had obtained a number of LCC contracts by executing each successive contract at lower standards until he found the level which just avoided the clerk of works' refusal, and then tendered deliberately on this low standard of work. We all know that the standard of work required is one of those intangibles which all experienced men in the profession manage to adjust in accordance with the type of work they are controlling. It is another instance of the very large responsibility which attaches to all of us in judging tenders to know the kind of work we are going to obtain when the contract is run, and ensure that the tender and the work are comparative.

SUB-CONTRACTS

Sub-contracts affect tenders very extensively. In order that the tender and, therefore, the cost, may be as low as possible, certain principles must be observed:—

(a) The conditions of the contract must be incorporated in the requests to sub-contractors to tender for sub-contracts.

(b) The conditions under which the sub-contractor will work must be clearly stated when he is asked to give a price, and there must be some documents which show the shoulders on whom responsibility rests for—

(i) Provision and use of scaffolding.
(ii) Provision and supply of water.
(iii) Unloading, taking delivery and storing materials.
(iv) Use of latrines.
(v) Use of canteen.
(vi) Payment for artificial lighting.
(vii) Hoisting and transport of materials on site.
(viii) Erection and maintenance of huts or offices.

Failure to state these matters in the sub-contract leads to endless claims, argument and often disagreement.

The contracting industry has complained for many years that far too much work appears in bills of quantities and specifications as allotted to sub-contractors, and yet omission of these sub-contracts almost inevitably leads to sub-contracting by the builder to firms of less responsibility who carry out the work on a lower standard and with less control than would be the case if the sub-contract were direct. Moreover, many items which are fully specified are sub-let by the main contractor at prices substantially below those which he has himself filled in to the tendering price. When attempts are made to secure the required standard of work, it is found that the low standard is due to the price paid by the builder to the sub-contractor, who has insufficient money to execute the work at anything like the standard for which the main contractor is paid. The industry has of necessity become more and more specialised, and for large numbers of contracts sub-contracting is the best way of building. The builders themselves have extended this sub-contracting principle far beyond the point at which many of us think it is efficient.

Good tenders can be obtained in some types of work on the issue of drawings and a performance specification. This applies in many cases to heating, ventilation, certain types of acoustics, and similar matters. It is only a matter of commonsense that where an appreciable amount of design drawing or calculation is needed, a very limited number of contractors should be asked to tender unless a substantial sum of money is included in each invitation to pay for the tender.

DRAWING OFFICE WORK

As building has increased in complication, it has been less and less possible for one standard fee to embrace all the professional work which is needed in complicated buildings, and, therefore, a number of sub-contracts include for drawing office and professional work of various kinds. This has many advantages. A steel firm will detail its steelwork to suit its own plant and machinery. A ventilating firm will detail its ventilating contract to use its own types

of fans and ducts. Therefore, it is fit and proper that judgment should be exercised in the way in which these highly technical skills should be paid for by the client. It is quite as legitimate to pay for them through a contracting organisation as it is through a consulting engineer.

It is open to question whether the building industry has not allowed sub-contracting to go too far, whether many firms ought not to revert to direct employment for more of the work for which they tender, look less to the construction of the firm as a financial and controlling organisation, transferring responsibility to small men of a lower calibre who execute the actual contract work. Similarly, it might well be justifiable for architects to be much more severe in their approval of builders' sub-letting, particularly the sub-letting which takes place without notice and only comes to light when there is strong criticism of the standard of work offered.

PRICE RINGS

Although travelling slightly away from the study of tendering, there is reason for examining the effect of price rings. Price rings can vary in desirable or objectionable qualities to a very large extent. In certain cases they are the results of amalgamation of firms manufacturing a similar product who collectively carry out extensive research, providing substantial capital between them, which in the end has resulted in a better and cheaper product for the public. Probably outstanding examples are those of cement marketing companies, metal window companies, and similar organisations. There are, of course, numerous examples of specialised industries having a similar pattern.

A ring of this kind, once formed, especially if competition involves the purchase of extensive plant and machinery, rapidly becomes almost watertight and liable to suffer abuse. It can artificially raise the price of the product to a level which is quite unjust to the public. National Boards, such as Coal, Gas and Electricity, are in this position, and once the monopoly is complete there is no check on the efficiency of the organisation. It is the duty of architects and surveyors to examine these tightly integrated industries and find means of obtaining both efficient service and economy. In some cases elaborate drawing office service is offered to the professional man, saving his own costs in exchange for a high price to the client, and, therefore, complete acceptance of price rings is just as impossible as complete rejection.

The price rings in building were mostly brought into existence in the period following the slump in 1920, although signs of them were apparent in the 1914-18 war. The immediate reason was the risk of many firms of substance being driven into bankruptcy by extensive price-cutting. Between bankruptcy and excessive profits there is an extensive field in which the professional man must operate to the advantage of the public as a whole.

BRICK-FACED FRAMED CONSTRUCTION

Introduction in Britain Planned

IMPROVED insulation, high structural efficiency and a blending of materials that achieves compatibility between modern labour-saving techniques and traditional appearance are the salient features of brick-faced frame construction, which made its first appearance in Britain at the recent Building Exhibition.

Other merits of the new system, which was given prominence on the Canadian Government stand, include flexibility of design, speed of erection, maximum use of semi-skilled labour and the elimination of all interior wet construction.

Canadian in origin, but modified to accord with building practice and æsthetic requirements in this country, frame construction is put forward as a practical solution to pressing national problems—fuel conservation, increased productivity and improved housing standards.

CONVINCING EVIDENCE

Preliminary research conducted by the Timber Development Association indicates that appreciably better insulation can be attained by adopting principles of construction that have proved themselves in the much colder climates of Canada and the United States for over 100 years. In a comparative study of alternative wall construction methods, the TDA has found that against a "U" value of 0.31—the standard of insulation provided by a traditional brick wall—frame construction of a type thought to be applicable in this country offers 0.21, a figure which goes some way beyond the criterion of adequate insulation now recognised by building experts.

SPECIFICATIONS

The specifications on which this assessment is based are as follows: *Brick cavity wall*, 4½ in. brick outer leaf, 2 in. air space, 4½ in. brick inner leaf, ⅜ in., plaster, two coats distemper. *Frame wall* (modified Canadian-style construction), 4½ in. brick outer leaf, 1 in. air space, moisture barrier, 2 in. by 4 in. softwood studding, ⅜ in. insulation quality plaster lath, skim coat plaster, two coats distemper.

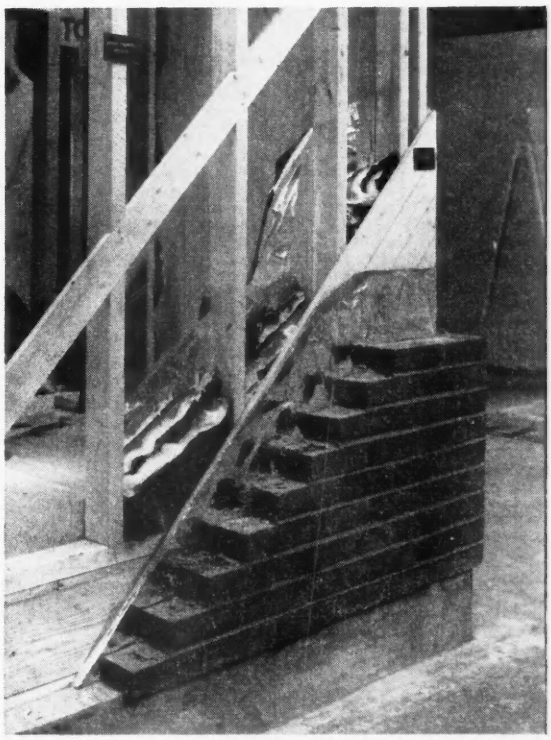
In terms of fuel economy the greater insulation provided by brick-faced frame construction means a reduction of approximately 17 per cent. in the average family's winter budget for coal and coke. National savings could be equally impressive. On the present scale of house-building frame construction would introduce a saving of 100,000 tons of solid fuels during the first year, 200,000 tons during the second year, and so on until economy caught up with imports.

Encouraged by this discovery, the British Columbia Lumber Manufacturers' Association, now engaged on an extensive development programme in Britain, has decided to give priority to the housing study.

Investigations already completed by the Timber Development Association suggest that brick-faced frame construction is in close alignment with conventional methods on cost, and that further economies can probably be effected when experience of the new technique has been assimilated.

THE LCC's INTEREST

Since the abolition of consumption timber licensing, the London County Council is understood to be giving attention to the fuller use of timber in building. Mr. A. W. Cleeve Barr, ARIBA, senior architect in charge of its research and development department, left for Ottawa and Vancouver on December 9 to study how far Canadian methods of frame construction are applicable to Great Britain. He goes as the guest of the British Columbia Lumber Manufacturers' Association. In Vancouver he will meet Professor Lasserre, Director of the School of Architecture, who is to visit this country next year to lecture on Canadian timber construction.



An example of brick-faced framed construction on the Canadian Government's stand at the recent Building Exhibition at Olympia, London.

The Builder

CURRENT PRICES OF MATERIALS

THE information given on these pages has been specially compiled for *The Builder* and is copyright. It is the intention that the details given should indicate fair average prices of materials, not necessarily the highest or the lowest. The prices apply to large quantities of materials loaded at works, delivered at London Stations or at site in London Area as stated. Prices for smaller quantities ex merchant's warehouse will necessarily be higher so as to include the stocking and handling costs involved. Due to the exceptional circumstances now prevailing it is recommended that the prices of materials should be confirmed by inquiry from suppliers and merchants.

AGGREGATES AND SAND

Delivered site in full lorry loads. Average of prices for Boroughs of Westminster, Paddington, Holborn and St. Pancras.

		£	s.	d.
Pit Ballast	per yd.	1	5	6
Pit Sand	"	1	2	11
Washed Sand	"	1	6	1
¾ in. Shingle	"	1	2	5
¾ in. Broken Brick	"	1	0	0
Pan Breeze	"		10	3
Fine or Coarse Foamed Slag Aggregate	per ton	3	0	9

2 yds. of fine and 2.6 yds. of coarse per ton

CEMENT, etc.

Including non-returnable jute sacks or paper bags.

		£	s.	d.
Best British Portland Cement. Standard Specification delivered Charing Cross area.				
6-ton loads and upwards, site	per ton	5	1	6
1 to 6 tons, site	"	5	13	6
Rapid Hardening Cement in 6-ton loads and upwards to site	"	5	12	0
1 to 6 tons do. site	"	6	4	0
Aquacrete Water Repellent Cement. 32s. 6d. per ton on ordinary cement prices.				
Red, Buff or Khaki Colorcrete in 6-ton lots	"	7	18	0
Other colours according to colour.				
In 4-ton lots from 295s. 0d. to 685s. 0d. per ton.				
White Portland Cement	"	13	2	0
Under 1 ton	per cwt.		15	7
417 Cement (Ultra Rapid Hardening) in 6-ton lots and upwards	per ton	6	14	0
Super Cement (Waterproof), 32s. 6d. per ton above Portland Cement.				
Cullamix Tyrolean Finish, £11 5s. 0d. to £14 0s. 0d. (1-ton loads and upwards).				
Lightning and Ciment Fondu Brands High Aluminous cement, 6-ton lots and up	"	14	8	3
Stourbridge Fireclay, 6-ton loads at Railway Depot, London	"	6	8	9
Moler Mortar Powder for Flue Bricks (London sites)	per cwt.	1	10	0

BRICKS

Full Loads.

		£	s.	d.
First Hard Stocks	per 1,000	11	17	0
Second Hard Stocks	"	10	16	0
Mild Stocks (Kiln Burnt)	"	9	1	6
Mild Stocks	"	8	16	6

All loaded free into lorry at the works. The question of haulage is still very difficult and prices must be obtained from job to job.

		£	s.	d.
2½ in. Nominal Fletton Bricks to sites in W.C. District Commons	"	5	13	0
Cellular do.	"	5	13	0
Keyed do.	"	5	15	0
Rustics	"	6	18	0
Cellular Rustics	"	6	18	0
Single Bullnose do.	"	6	13	0
Sandfaced	"	7	13	0
Best Blue Pressed Staffs (London Stations)	"	27	5	6
Do. Bullnose (London Stations)	"	27	19	6
Blue Wire Cuts (London Stations)	"	24	14	0
Midhurst Lime Bricks (London sites)	"	10	8	0
Uxbridge Whites (London sites)	"	9	11	6
Special Purpose Sandlime Bricks (London sites)	"	7	14	0
2½ in. Best Stourbridge Fire Bricks (London stations)	"	26	6	3
3 in. do. (London stations)	"	31	12	0
2¾ in. Moler Flue Bricks (London sites)	"	36	0	0
2½ in. Machine-made Sandfaced Red Facings (London sites)	"	14	8	6
2½ in. Machine-made Multi Red Facings (London sites)	"	14	13	6
2½ in. Hand-made Sandfaced Red Facings (London sites)	"	15	6	0
2½ in. Hand-made Sandfaced Multi-Colour Facings (London sites)	"	16	1	0
Hand-made Sandfaced Cherry Red Facings. Berkshire district (London sites)	"	17	5	6
Hand-made Sandfaced Multi-Colour Facings. Berkshire district (London sites)	"	17	5	6
Rubber Bricks for gauged arches (London sites)	per 1,000	41	10	0
2½ in. Surrey Clamp Burnt Multi Stock Facings (London sites)	"	13	6	0
2½ in. Surrey Kiln Burnt Multi Stock Facings (London sites)	"	14	18	0
Glazed Bricks (London sites), White, Ivory, Brown—				
Stretchers	"	64	0	0
Headers	"	63	0	0
Quoins, Bullnose and 4½ in. Flats	"	80	0	0
Double Stretchers	"	85	0	0
Double Headers	"	77	10	0
One side and two ends	"	87	0	0
Two sides and one end	"	89	10	0
Splays and Squints	"	83	0	0

Cream and Buff £3 extra over White. Other colours, hard glaze, £8 10s. 0d. extra over White. All above prices plus 17½% for Best quality and plus 17½% less 10% for Second quality.

PARTITION SLABS, etc.

Delivered Central London Area. (W.C. District).

	Minimum lorry loads.		£	s.	d.
HOLLOW CLAY PARTITION BLOCKS (Keyed)					
*2 in.	140 yds.	per yd. sup.		4	4
*2½ in.	140 yds.	"		4	7
*3 in. (3 cavity)	120 yds.	"		5	4
BUILDING BLOCKS (Keyed)					
*3 in. (6 cavity)	110 yds.	"		5	6
*4 in. (6 cavity)	95 yds.	"		6	9
6 in. (8½ in. × 5⅛ in.)	1,250 blocks	per 1,000	26	6	0

* Half blocks at no extra charge.

CLINKER CONCRETE					
2 in.	100 yds.	per yd. sup.		3	9
2½ in.	85 yds.	"		4	4
3 in.	75 yds.	"		5	3
4 in.	55 yds.	"		6	5
CRANHAM					
2 in.		"		6	8
2½ in.		"		7	4
3 in.		"		8	7
4 in.		"		10	7
4½ in. Load bearing quality		"		11	8
MOLER PARTITION BLOCKS					
2 in.	150 yds.	"		15	6
2½ in.	120 yds.	"		15	9
3 in.	100 yds.	"		16	0
4 in.	90 yds.	"		19	0
LIGHTWEIGHT CONCRETE BUILDING AND PARTITION BLOCKS OF VARIOUS SOURCES OF MANUFACTURE					
2 in.	100 yds.	"		5	9
2½ in.	80 yds.	"		6	11
3 in.	65 yds.	"		8	1
4 in.	50 yds.	"		9	4
4½ in.	44 yds.	"		10	2
6 in.	33 yds.	"		13	8
THERMALITE PARTITION BLOCKS					
2½ in.	120 yds.	"		6	11
THERMALITE LOADBEARING INSULATING BLOCKS					
3 in.	100 yds.	"		8	3½
4 in.	75 yds.	"		10	9
5 in.	60 yds.	"		13	5
6 in.	50 yds.	"		16	1½
8 in.	37½ yds.	"	1	1	6
9 in.	33 yds.	"	1	4	3½
FLOOR BLOCKS AND FILLER TILES					
3 in. Floor Blocks 12 in. by 12 in. delivered in full lorry-loads		per 1,000	33	6	0
4 in. do.		"	35	14	0
5 in. do.		"	42	10	0
6 in. do.		"	47	17	0
7 in. do.		"	58	8	0
8 in. do.		"	68	9	0
10″×3″×⅝″ Filler Tiles in multiples of 10 tiles	per 1,000 multiples		56	15	0
12″×3″×⅝″ do.	do.	" "	64	10	0
10″×4″×⅝″ do.	do.	" "	71	0	0

STONEWARE DRAIN PIPES, etc.

The following are the percentages to be added to the Standard List prices delivered London Area.

	Delivered ex Merchants Wharf or Depot			
	Over 2 tons	Over 100 pieces Under 2 tons	Under 100 pieces Under 2 tons	
Best Quality	—	+117½%	+130%	
BSS Best do.	—	+10% +117½%	+10% +130%	
Tested Quality	—	+37½% +117½%	+37½% +130%	
BSS Tested do.	—	+47½% +117½%	+47½% +130%	
	Delivered ex Manufacturers' Works			
Best Quality	+85%	+105%	+115%	
BSS Best do.	+10% +85%	+10% +105%	+10% +115%	
Tested Quality	+37½% +85%	+37½% +105%	+37½% +115%	
BSS Tested do.	+47½% +85%	+47½% +105%	+47½% +115%	

STONEWARE DRAIN PIPES, etc.—*continued*

	£	s.	d.
3 in. Land Drain Pipes (in 12 in. lengths) ... per 1,000	10	2	6
4 in. do. ... ... ,,	14	9	6
6 in. do. ... ... ,,	29	19	0
9 in. do. ... ... ,,	57	5	0

DAMP COURSE

Hessian base bitumen 7 lb. per yd. sup. in 24 ft. rolls cut to wall widths in lots of £6 value and over delivered London area ... ... per yd. sup.	3	1	
Asbestos base ditto 7 lb. per yd. sup. do. do. ,,	5	0	
Lead lined bitumen ditto 9½ lb. per yd. sup. do. ,,	11	3	
18 in. × 9 in. British damp course slates ... ... per 1,000	38	6	0
14 in. × 9 in. do. do. ... ... ,,	29	11	0
9 in. × 9 in. do. do. ... ... ,,	18	2	6
18 in. × 4½ in. do. do. ... ... ,,	17	15	6
14 in. × 4½ in. do. do. ... ... ,,	14	1	9
9 in. × 4½ in. do. do. ... ... ,,	9	7	6

STONE

Bath Stone—			
Monks Park ... ... per ft. cube	8	0	
St. Aldhelm Box Ground ... ... ,,	9	0	
Delivered in railway trucks at South Lambeth B.R. Western Region.			
Doulting Stone Random Blocks. Delivered London area ,,	8	9	
Beer Stone. Delivered London area ... ... ,,	8	3	
Portland Stone—			
Brown Whitbed in random blocks, 20 ft. average delivered in railway trucks at Nine Elms, B.R. Southern Region ... ... ,,	8	3½	
Yorkshire Stone—Blue Robin Hood Quality. Delivered to site London in 6-ton lots.			
9 in. × 3 in. Rubbed, weathered, throated and stooled cills ... ... per ft. cube	3	10	8
12 in. × 6 in. do. do. ... ... ,,	2	10	6
12 in. × 3 in. Plain coping, twice throated ... ,,	1	19	0
12 in. × 3 in. Weathered and twice throated coping ,,	2	12	0
14 in. × 6 in. do. do. ... ... ,,	2	7	0
4½ in. × 9 in. Plinth, rubbed on top and face ... ,,	2	2	0
3 in. sawn two sides Slabs, random sizes ... ... per ft. sup.		7	6
Templates and Cover Stones, 3 in., 4 in. and 6 in. thick, edges coped for rendered brickwork ... per ft. cube	1	5	9
Do. do. fair one edge for fair faced brickwork ... ... ,,	1	10	6
Hard York—			
12 in. × 2 in. Square Steps, rubbed on top and edge per ft. run		9	0
14 in. × 3 in. Round-nosed Steps, rubbed on top and front ... ... per ft. cube	2	8	0
12 in. × 6 in. Plain Steps, rubbed top and front ,,	2	2	0
2 in. Rubbed and Jointed Paving, given sizes ... per ft. sup.		8	6
2 in. Sawn Paving, edges squared, in random sizes per yd. sup.	2	19	3

TILES AND PANTILES

Delivered London area by road in 6 tons or over per 1,000.			
Machine-made Pantiles and French pattern Tiles from Lincolnshire district	29	8	0
Hand-made Pantiles Berkshire district	50	9	0
Hand-made Double Roman Bridgwater district	58	13	6
Hand-made 10½ × 6½ tiles Berkshire district	14	1	6
Machine-made 10½ × 6½ Staffordshire district	13	18	9
Hand-made Hip and Valley tiles per doz.	1	10	0
Machine-made Hip and Valley tiles do.	1	8	0
Concrete tiles 10½ × 6½	8	1	6
do. Interlocking (49S)	19	0	0

NOTE.—Breakage in transit, purchasers' responsibility.

SLATES

First-quality Slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.			
24 × 12	124	17	4
22 × 12	103	13	8
22 × 11	93	13	6
20 × 12	88	9	0
20 × 10	82	7	9
18 × 10	59	12	9
18 × 9	52	14	6
16 × 10	49	1	3
16 × 8	38	3	8

NOTE.—Breakage in transit, purchasers' responsibility.

TIMBER

Softwood—			
Joinery quality ... ... Ex. Wharf per standard	£110 to £135		
Carcassing quality ... ... do. ,,	£98 to £102		
1 in. Tongued and Grooved Flooring do. ,,	£108	0	0
Hardwood—			
Mahogany—African S.E. ... do. per ft. cube	1	10	0
do. Honduras do. ... do. ,,	3	5	0
Oak European do. ... do. ,,	2	5	0
do. Japanese do. ... do. ,,	2	10	0
do. English Logs sawn ... do. ,,	1	17	6
Teak 8 in. average S.E. ... do. ,,	3	15	0
Walnut African Logs sawn ... do. ,,	1	5	0

DOORS (in Lots I-II)

Delivered London area.	£	s.	d.
1½ in. 4 Horizontal Panel. Pattern 4 in. deal			
2 ft. 0 in. × 6 ft. 6 in. ... ... each	1	12	0
2 ft. 3 in. × 6 ft. 6 in. ... ... ,,	1	13	0
2 ft. 6 in. × 6 ft. 6 in. ... ... ,,	1	14	0
2 ft. 9 in. × 6 ft. 6 in. ... ... ,,	1	16	6
2 in. do. but top panel open. Pattern 4 × G in deal			
2 ft. 6 in. × 6 ft. 6 in. ... ... ,,	2	9	0
2 ft. 9 in. × 6 ft. 6 in. ... ... ,,	2	11	6
2 in. Panel, top panel open. Pattern 2 × G in deal			
2 ft. 6 in. × 6 ft. 6 in. ... ... ,,	2	1	9
2 ft. 9 in. × 6 ft. 6 in. ... ... ,,	2	3	6

SUNDRIES

Delivered London area.			
1 in. Wood Wool Slabs, 6 ft. 0 in. × 2 ft. 0 in. in quantities of 1 ton (89 yds. to 1 ton) ... ... per yd.	5	8	
1½ in. do. (67 yds. to 1 ton) ... ... ,,	7	4	
2 in. do. (52 yds. to 1 ton) ... ... ,,	8	11½	
2½ in. do. (45 yds. to 1 ton) ... ... ,,	10	3	
3 in. do. (39 yds. to 1 ton) ... ... ,,	11	5½	
Quantities under 1 ton add 1d. per ½ in. of thickness.			
½ in. imported insulation Board, quantities over 5,000 sq. ft. per 100 sq. ft.	2	2	6
¼ in. Hardboard do. ... ... ,,	2	1	6
5/32 in. do. do. ... ... ,,	3	2	6
1/8 in. Asbestos Flat Building Sheets ... ... per yd. sup.	3	5	
¼ in. do. ... ... ,,	4	7	
Roofing Felt, 1-ply ... ... ,,	1	6	
do. 2-ply ... ... ,,	1	9	
Best Scotch Glue in slabs ... ... per ½ cwt.	5	0	0
do. pearl ... ... ,,	5	5	0
Croid Glue ... ... 28 lb.	2	6	0
Cut Nails 3 in. (1-ton lots) ... ... per ton	64	10	0
do. 4 in. and up (1-ton lots) ... ... ,,	61	0	0
Wire Nails, 3 in. (4-cwt. lots) ... ... per cwt.	3	0	9
do. 4 in. and up (4-cwt. lots) ... ... ,,	3	0	3

METALS

STEEL JOISTS, ETC.

Basis Joists—			
6 in. × 5 in., 8 in. × 5 in., 8 in. × 6 in., 10 in. × 6 in. 12 in. × 6 in. plain cut to lengths delivered London area ... ... per ton	41	0	0
Extra for sizes			
3 in. × 1½ in. 4 in. × 1¾ in. ... ... ,,	3	10	0
3 in. × 3 in. ... ... ,,	2	10	0
4 in. × 3 in. 10 in. × 4½ in. ... ... ,,	1	10	0
5 in. × 2½ in. 5 in. × 3 in. ... ... ,,	1	15	0
4½ in. × 1⅞ in. ... ... ,,	3	5	0
5 in. × 4½ in. 7 in. × 3½ in. 13 in. × 5 in. ,,		15	0
6 in. × 3 in. 24 in. × 7½ in. ... ... ,,	2	0	0
6 in. × 4½ in. 7 in. × 4 in. 8 in. × 4 in. ,,	1	5	0
9 in. × 4 in. 10 in. × 5 in.			
12 in. × 5 in. 22 in. × 7 in. ... ... ,,	1	0	0
9 in. × 7 in. 10 in. × 8 in. 12 in. × 8 in.			
14 in. × 5½ in. 14 in. × 6 in. 14 in. × 8 in.			
15 in. × 5 in. 15 in. × 6 in. 16 in. × 6 in. ,,		10	0
16 in. × 8 in. 18 in. × 6 in. 18 in. × 7 in.			
18 in. × 8 in. 20 in. × 6½ in. 20 in. × 7½ in.			
Steel angles average price ... ... ,,	42	15	0
Steel tees average price ... ... ,,	43	15	0
Fabricated work delivered London—			
R.S. Joists cut and fitted ... ... ,,	57	10	0
Compound girders ... ... ,,	63	5	0
Stanchions ... ... ,,	68	10	0
Compound stanchions ... ... ,,	72	10	0
In Roof Work—Trusses and Purlins ... ... ,,	85	10	0
Average prices not for awkward work.			
Angle cleats and ⅝ in., ¾ in. and ⅞ in. bolts average price London area ... ... per cwt.	4	15	0

FERRO-CONCRETE BARS

Mild Steel Ferro-Concrete bars to BSS785 ex London			
Stock ⅜ in. diam., and upwards ... ... ,,	42	11	0
¼ in. diam. ... ... per ton extra	8	12	0
7/32 in. do. ... ... ,,	6	12	0
5/16 in. do. ... ... ,,	4	12	0
⅛ in. do. ... ... ,,	3	2	0

MILD STEEL TUBES

Tubes to BSS1387 and Fittings. List prices and following discounts:

Galvanised Tube—	W.I. Fittings	Malleable Fittings
Class A + 7½%		
Class B + 18¼%	Light + 34%	Malleable List—32½% + 40%
Class C + 35¾%	Heavy + 41½%	
Black—		
Class A − 14½%		
Class B − 2½%	Light + 21½%	Malleable List—32½%
Class C + 11¼%	Heavy + 28¾%	

C.I. HALF-ROUND GUTTERS

Delivered London per yd. in 6-ft. lengths

	Gutters	Nozzles	Stop Ends
3 in.	3/5½	3/2	/11
3½ in.	3/10½	3/5	/11
4 in.	4/11½	3/10	1/4
4½ in.	5/5½	4/4	1/7
5 in.	6/1	4/8	1/11

METALS—*continued*

C.I.O.G. Gutters

	Gutters	Nozzle	Stop Ends
3 in.	4/7	4/1	1/1
3½ in.	5/1½	4/1	1/4
4 in.	5/8	4/4	1/7
4½ in.	6/1	4/11	1/11
5 in.	6/8	5/8	2/2

C.I. Rain-water Pipes

Per yd. in 6-ft. lengths	Pipe	Bends	Branches
2 in.	7/7	3/10	5/7
2½ in.	7/7	4/4	7/5
3 in.	8/6	5/5	8/1
3½ in.	9/8	6/4	9/8
4 in.	11/2½	7/9	11/6

L.C.C. Coated Soil Pipes

2 in.	8/7½	6/8	8/1
2½ in.	9/0½	7/4	10/1
3 in.	10/2	8/1	11/11
3½ in.	11/4½	10/1	13/11
4 in.	12/11½	11/3	16/5

Above prices for gutters, rain-water and soil pipes for under 5 cwt. lots only. Lots over 5 cwt. see List No. 3300 dated February 1, 1955, plus 7½% and tonnage allowance. 4-ton lots 5 per cent., 2-ton lots 2½ per cent.

L.C.C. Coated Drain Pipes

In 9-ft.

	cwt.	qr.	lb.	per yd.	Bends	Branches
4 in.	1	1	17	27/4	19/3	34/-
6 in.	2	0	1	40/9	51/-	81/9

Asbestos Rain-water Pipes and Fittings

All less 17½ per cent. discount.

		2 in.	2½ in.	3 in.	4 in.
Pipes 6-ft. lengths	per yd.	3/9	4/-	4/10	6/5
Shoes	each	2/5	2/8	3/2	4/3
Single Branches	„	3/9	4/6	5/4	7/6
Bends square or obtuse	„	2/8	2/11	3/9	5/4
Swan Necks 4½ in. proj.	„	2/11	3/9	4/3	5/11
do. 6 in. do.	„	3/2	3/9	4/10	6/5

Asbestos O.G. Gutters and Fittings

		4 in.	4½ in.	5 in.	6 in.
Gutters 6-ft. lengths	per yd.	3/7	3/11	4/8	5/7½
Drop ends	each	2/10	3/4	3/10	4/7
Stop Ends	„	/10	/11	1/-	1/2
Angles	„	2/11	3/5	4/1	4/10
Nozzles	„	2/10	3/4	3/10	4/7
Union Clips	„	1/5	1/8	2/1	2/5

Asbestos Half-Round Gutters and Fittings

		3 in.	4 in.	4½ in.	5 in.	6 in.
Gutters 6-ft. lengths	per yd.	2/6	2/11½	3/0½	3/7	5/-
Drop ends	each	2/1	2/5	2/8	2/11	4/3
Stop ends	„	/9	/10	/11	1/-	1/2
Angles	„	2/5	2/8	2/11	3/2	4/3
Nozzles	„	2/1	2/5	2/8	2/11	4/3
Union Clips	„	1/-	1/1	1/2	1/4	2/-

	Per ton basis in London £ s. d.
Iron—Staffordshire Crown Merchant Quality	43 12 6
Mild Steel Bars	40 4 0
Mild Steel Hoops	41 3 6

	Ex Merchant's Stock per ton Two-ton lots £ s. d.
Soft Sheets C.R. and C.A.—	
20 gauge	52 8 6
24 gauge	54 18 6
26 gauge	57 18 6
Galvanised Corrugated sheets 6 ft. to 9 ft.—	
20 gauge	60 6 0
24 gauge	63 16 0
26 gauge	69 1 0
Galvanised flat sheets C.R. and C.A.—	
20 gauge	61 6 0
24 gauge	64 16 0
26 gauge	70 1 0

ALUMINIUM AND ALUMINIUM ALLOYS

(Base prices)		£ s. d.
Sheet BS 1470 SIC 18 SWG (36 in. wide)	per lb.	2 7½
Sheet BS 1470 NS 3 Utility 18 SWG (36 in. wide)	„	2 4½
Coiled strip BS 1470 S1C 18 SWG (24 in. wide)	„	2 6½
Coiled strip BS 1470 NS 3 Utility 18 SWG (24 in. wide)	„	2 4
Coiled strip for flashing 99.7% purity 22 SWG (12in. wide)	„	2 9
Corrugated sheet BS 1470 NS 3 Utility Circular Profile 8 ft. × 32 in. × 20 SWG	per sheet	1 8 6
Corrugated sheet BS 1470 NS 3 Utility Industrial Profile 8 ft. × 31½ in. × 20 SWG	„	1 13 9
Corrugated sheet BS 1470 NS 3 Utility Mansard Profile 8 ft. × 31½ in. × 20 SWG	„	1 7 8
Extruded section BS 1476 E1C simple moulding	per lb.	2 5
Extruded section BS 1476 E1C 1 in. diam. round	„	2 2½
Extruded section BS 1476 HE10WP simple angle	„	2 8
Extruded section BS 1476 HE10WP 1 in. diam. round	„	2 7
Tubing BS 1471 T1C 1¼ in. O/D × 20 SWG	„	3 11½
Tubing BS 1471 HT10WP 1¼ in. O/D × 20 SWG	„	5 2

PLUMBERS' BRASS WORK, etc.

Delivered in London area.

All per doz.	M.O.H. ½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
Screwdown bib cocks Crutch head for iron	87/-	128/8				
Toilet bib cocks for iron	109/-	158/5				
Screwdown stop cocks for iron	66/-	95/9	188/-	363/-	522/6	917/6
do. with two unions for lead	89/-	132/-	234/4	472/-	623/6	1389/6
Double nut boiler screws	18/8	26/5	47/6	48/6	67/-	93/6
Heavy Croydon ball valves	77/-	193/6	312/5	568/8	734/10	—
Plumbers' union brass lead to iron	19/6	23/6	38/6	52/10	70/6	165/-
	1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
Caps and screws	33/-	40/8	59/6	92/5	118/10	155/3
Brass sleeves		31/11	31/11	56/2	74/10	91/5
	1¼ × 6 lb.		1½ × 6 lb.	2 × 7 lb.	3 × 7 lb.	
Lead P. trap with brass cleaning screws	68/-		85/-	135/-	231/6	
Lead S. trap do.	82/-		102/-	167/-	299/6	

Solder		s. d.
Plumbers'	per lb.	3 10
Tinmen's	„	4 8
Blow pipe	„	4 11

Copper Tubes and Sheets

Copper tubes BSS 659/1944 on the basic price of 45½d. per lb. plus gauge and manufacturing extras as follows. Minimum quantities, 3 cwt.

	Extra d.		d.
¼ in. × 19 gauge	12½	Total per lb.	58
¾ in. × 19 „	11½	„ „	56½
1 in. × 18 „	9½	„ „	54½
1¼ in. × 18 „	9	„ „	54½
1½ in. × 18 „	9	„ „	54½
2 in. × 17 „	10½	„ „	55½

		£ s. d.
Rolled Copper sheets up to 48 in. wide, basic price plus gauge and manufacturing extras	per ton	426 0 0

Zinc

			£ s. d.
Sheet Zinc	10 gauge (25 SWG)	5 cwt. lots upwards per cwt.	8 15 3
do.	12 gauge (23 SWG)	„ „	8 13 6
do.	14 gauge (21 SWG)	„ „	8 12 6

Brass Tubes

		s. d.
Brass tubes basic price, plus gauge and manufacturing extras	per lb.	2 11½

LEAD SHEET AND PIPES

Basis selling price in minimum one-ton delivery to one address in London or Home Counties.

		£ s. d.
Lead Sheet, English, 3½ lb. substance and upwards	per ton	147 0 0
Lead Water Pipe in coils	„	148 5 0
Lead Soil Pipe 10 ft. or over 2 in. to 4 in. dia.	„	149 15 0
do. over 4 in. dia.	„	151 15 0
Lead Gas or Untinned Compo pipe	„	149 15 0
Extras over Basis for quantities under 1 ton		
5 cwt. and under 1 ton	per cwt.	2 0
3 cwt. do. 5 cwt.	„	4 0
1 cwt. do. 3 cwt.	„	6 0

Smaller quantities than 1 cwt. priced specially.
Supplying sheet lead and lead pipe to less than basis weights and cutting to sizes less than basis charged extra according to current trade schedule.
Allowance for Old Lead, collected £100 10s. 0d. per ton weighed at buyer's works.

PLASTER, etc.

				£ s. d.
Coarse Pink in 1-ton loads and over Delivered on Site	per ton	7 11 9
do. White	do.	do.	„	7 19 6
Sirapite Coarse	do.	do.	„	7 14 0
do. Fine	do.	do.	„	8 2 0
Blue Lias Lime in 6-ton loads	„	6 14 6
Hydrated Lime	do.	„	5 17 6
Lump Lime	do.	„	5 7 0
White Keen's or Parian Cement in 1-ton loads	„	10 17 0
Pink Keen's or Parian Cement in 1-ton loads	„	10 11 9
Granite Chips in 6-ton loads	„	2 8 3
Hair	per cwt.	4 17 6
Gypsum Plaster Lath or Base Board ⅜ in. thick 600 yds. and over in one delivery. Delivered site	per yd.	2 3½
1,200 yds.	„	2 2½
Do. Insulating do. ⅜ in. thick 600 yds. and over in one delivery. Delivered site	„	2 11½
1,200 yds.	„	2 10½
Gypsum Plaster Wall Boards, 3 and 4 ft. wide 6 to 12 ft., ½ in. thick, 600 yds. and over in one delivery. Delivered site	„	2 6½
1,200 yds.	„	2 5½
Do. Insulating do. ½ in. thick 600 yds. and over in one delivery. Delivered site	„	3 2½
1,200 yds.	„	3 1½

PAINT AND DISTEMPER

	£	s.	d.
Delivered London area			
Ceiling Distemper ... ... per cwt.	1	7	6
Washable Distemper ... ... ,,		5	5	0
Gloss Paint ... ... per gal.	2	10	0
Snowcem cement paint (in 1 cwt. drums) ... ... per cwt.	3	11	0
LEAD PRODUCTS AND OILS			
Ground White Lead, 1 cwt. kegs ... ... per cwt.	8	18	0
Genuine White Lead Paint, 1-19 gal. lots in 1 gal. tins per gal.	3	2	0
Genuine Red Lead, Dry, 1 cwt. keg ... ... per cwt.	7	5	6
Genuine Linseed Oil Putty, 1 cwt. keg ... ... ,,	2	11	0
Size XD quality, 28 lb. ... ... per tin		9	0
Raw Linseed Oil (5 gal.) drums extra ... ... per gal.		14	0
Boiled Linseed Oil (5 gal.) do. ... ... ,,		14	6
SUNDRIES.			
Turpentine substitute (5 gal.) drums extra ... ... ,,		5	6½
do. do. (40 gal.) do. do. ... ... ,,		4	8½
Solignum, Brown (5 gal. cans) Exterior ... ... ,,		6	10
Creosote (40 gal. barrels) ... ... ,,		2	0
Paste Powder (1 lb. packets) ... ... per lb.		1	6
White Lining Paper ... ... per piece		1	0

VARNISHES, etc.

	£	s.	d.
Delivered London area.			
Oak Varnish, Outside or Inside ... ... per gal.	1	12	6
Oak Pale Copal do. ... ... ,,	1	18	0
Hard Drying Oak for Inside ... ... ,,	2	0	0
Crystal Paper Varnish do. ... ... ,,	2	0	0
Eggshell Flat Varnish do. ... ... ,,	2	14	0
Finest Carriage Varnish ... ... ,,	2	10	0
Front Door Varnish ... ... ,,	2	0	0
Japan Gold Size ... ... ,,	1	12	6
Black Japan ... ... ,,	1	14	0
Brunswick Black ... ... ,,	1	10	0
Berlin Black ... ... ,,	1	5	0
Terebene ... ... ,,	1	8	0
Knotting (1 gal, bottles free)... ... ... ,,	2	2	0
French and Brush Polish (do.) ... ... ,,	1	18	0

GLASS

Delivered London area.	Per ft. super s.	d.
18 oz. Sheet Glass Ordinary Glazing Quality. Cut Sizes		6½
24 oz. ,, ,, ,, ,, ,, ,,		8¾
26 oz. ,, ,, ,, ,, ,, ,,		11
32 oz. ,, ,, ,, ,, ,, ,,	1	2⅜
¼ in. Rolled Plate		10
⅛ in. and ¼ in. Rough Cast	1	1

	Per ft. super s.	d.
⅛ in. Figured Rolled and Cathedral, Standard patterns: White		10
do. Standard Tints	1	5½
do. Special Tints	2	11½
⅛ in. Pinstripe, Hammerstripe, Reeded, Reedlyte and Luminating	1	2
¼ in. Wired Cast	1	3¼
¼ in. Georgian Wired Cast	1	3½
Hollow Glass Blocks—	Each	
P.B.2 5⅜ × 5⅜ × 3⅞ in.	2	11
P.B.3. 7¼ × 7¼ × 3⅞ in.	4	5
P.B.32 7¼ × 7¼ × 3⅞ in.	4	5
Radiused Corner Blocks to match up with—		
P.B.2	5	6
P.B.3	7	0
P.B.32	7	0
¼ in. Polished Plate Glass, G.G. Quality—	Per ft. super	
In plates not exceeding 2 ft. sup.	3	7
,, ,, ,, 5 ft. sup.	4	5
,, ,, ,, 45 ft. sup.	5	1
,, ,, ,, 100 ft. sup.	5	6
¼ in. Polished Plate, extra sizes, *i.e.*, plates exceeding 100 ft. sup. or 160 in. one way or 96 in. both ways. G.G. quality —Not exceeding 135 ft. sup. or 250 in. one way or 135 in. both ways	8	4
Not exceeding 180 ft. sup. or ditto	11	3
Not exceeding 200 ft. sup. or ditto	16	0
Plates exceeding 200 ft. sup., prices on application.		
Substances other than ¼ in. Polished Plate at Special Prices.		

Quantity Tariff—Sheet and Sundry Glass.

The following prices apply to minimum quantities of one size and one pattern delivered by the manufacturer to one site at one time.

Description of Glass	Minimum quantity	Per ft. sup. s.	d.
18 oz. sheet O.Q.	3,000		4⅞
24 oz. ,, ,, ...	2,000		6½
26 oz. ,, ,, ...	2,000		8⅛
32 oz. ,, ,, ...	2,000		11⅜
¼ in. Rolled Plate	1,000		8
⅛ in. Figured Rolled and Cathedral Standard Patterns, White	1,000		8
⅛ in. Pinstripe, Hammerstripe, Reeded, Luminating and Spotlyte...	1,000		11
7/16 in. and ¼ in. Rolled Plate or Rough Cast ...	2,000		11
¼ in. Wired Cast, Hexagonal...	2,000	1	0½
¼ in. Georgian Wired Cast	2,000	1	1

The Builder

CURRENT RATES OF WAGES

AS FROM OCTOBER 3, 1955. (Every endeavour is made to ensure accuracy but we cannot be responsible for errors.)

KEY TO SCHEDULE OF GRADE RATES.

Grade Classification.	A	A1	A2	A3
Craftsmen	4/-	3/11½	3/11	3/10½
Labourers	3/5½	3/5	3/4½	3/4

Town.	*Grade.*
Aberavon	A
Aberdare	A
Abergavenny	A
Abingdon	A2
Accrington	A
Addlestone	A
Afan Valley	A
Aldeburgh	A1
Aldershot District	A1
Alfreton UD	A
Alnwick UD	A
Altrincham	A
Amble	A
Ambleside	A2
Amersham	A1
Ammanford	A
Andover	A2
Anglesey, Isle of	A2
Ardingly	A2
Arundel	A2
Ascot	A2
Ashbourne RD	A2
Ashbourne UD	A2
Ashby-de-la-Zouch UD	A
Ashby Woulds UD	A
Ashford (Kent)	A2
Ashford (Middlesex)	A
Ashington UD	A
Ashtead	A
Ashton-under-Lyne	A
Aspatria and Brayton	A2
Atherstone RD	A
Attleborough	A2
Axminster	A2
Aylesbury	A2
Aylesham	A2
Bagshot	A2
Bakewell UD	A2
Banbury	A1
Bangor	A2
Barnard Castle UD	A
Barnoldswick UD	A
Barnsley CB	A
Barnstaple	A2
Barrow-in-Furness	A
Barrow-upon-Soar RD (exc. Thrussington A2)	A
Barry	A
Basford RD (exc. Willough-by-on-the-Wolds A1)	A
Basingstoke	A1
Bath	A
Batley MB	A
Baxterley	A1
Beaconsfield District	A
Bearl	A
Beccles	A2
Bedale RD	A
Bedford	A
Bedlington	A
Bedlingtonshire UD	A
Bedwas	A
Beeston & Stapleford UD	A
Belper UD	A
Belton	A
Berkhamsted	A
Berrington	A1
Berwick Borough	A
Beverley MB	A
Bewdley MB	A
Bexhill-on-Sea	A2
Bideford	A2
Biggleswade	A2
Billericay	A
Billing	A
Billingham UD	A
Bilsthorpe	A
Bilston MB	A
Birchington	A2
Birkenhead	*
Birmingham CB	†A
Bishop Auckland UD	A
Bishop's Stortford	A
Bishops Castle MB	A2
Bispham	A
Blackburn	A
Blackpool	A
Blackwell RD	A
Blandford	A2
Blaydon UD	A
Blidworth	A
Blyth B.	A
Bodmin	A2
Bognor Regis	A2
Boldon UD	A
Bolsover UD	A
Bolton	A
Boston MB	A
Bourne End	A
Bournemouth District	A
Brackley MB	A2
Bracknell	A2
Bradford CB	A
Bradford-on-Avon	A2
Braintree	A1
Brandon & Byshottles UD	A
Brecon—Borough of	A1
Breconshire, County of ...	‡A2
Brent Knoll	A2
Brentwood	A
Bridgend	A
Bridlington MB	A
Bridlington RD	A1
Bridgnorth MB	A1
Bridgnorth RD	A2
Bridgwater	A1
Brierfield	A
Brighouse MB	A
Brighton & Hove	A
Bristol District	A
Broadstairs	A2
Bromsgrove UD	A
Broughton, Flint	A
Buckfastleigh	A2
Buckingham	A2
Buckley	A
Bungay	A2
Burnham-on-Crouch	A2
Burnham-on-Sea	A2
Burnley	A
Burton-on-Trent C.B.	A
Bury	A
Bury St. Edmunds	A1
Buxton	A
Byfleet	A1
Caernarvon	A2
Caernarvonshire, Cnty. of	‡A2
Calder Valley	A
Camberley District	A2
Cambridge	A
Cannock UD	A
Canterbury	A2
Cardiff	A
Cardiganshire, County of	‡A2
Carlisle	A

Continued on page 1072

CURRENT RATES OF WAGES—Continued

Town.	Grade.
Carlton UD	A
Carmarthen—Borough of	A1
Carmarthenshire, Cnty of	‡A2
Carnforth	A
Castleford UD	A
Caterham	A
Chapel-en-le-Frith	A
Chard	A2
Charmy Down	A
Chatham District	A
Chatteris	A2
Cheadle (Staffs) RD	A
Chelmsford	A
Cheltenham	A
Chepstow	A1
Chertsey	A
Chester	A
Chester-le-Street UD	A
Chesterfield MB	A
Chesterfield RD	A
Chichester	A2
Chipping Norton	A2
Chipping Sodbury	A2
Chippenham (inc. Chippenham Within and Hardenhuish)	A2
Cirencester	A2
Chorley	A
Clacton	A1
Clay Cross UD	A
Cleethorpes MB	A
Clevedon	A1
Cleveleys	A
Clitheroe	A
Coalville UD	A
Cobham (Surrey)	A
Colchester	A
Colne	A
Colwyn Bay	A1
Congleton	A1
Consett UD	A
Conway	A1
Corby UD	A
Cornwall, County of	‡A2
Corsham District	A
Coventry CB	A
Cranbrook	A2
Cranleigh	A2
Cranwell Aerodrome Site	A1
Crawley	A
Crewe	A
Crewkerne	A2
Cromer	A1
Crook and Willington UD	A
Crowborough	A2
Cuckfield	A2
Cwmbran	A
Dalton-in-Furness	A
Darlington CB	A
Dartmouth	A2
Darwen	A
Daventry MB	A2
Deal	A2
Denbigh Town	A2
Derby CB	A
Devizes	A2
Devon, County of	‡A2
Dewsbury CB	A
Didcot	A2
Diss	A2
Doncaster CB	A
Dorchester	A2
Dorking	A
Dorset, County of (excepting Poole, Swanage and Wimborne A1)	A2
Dover	A2
Dovercourt	A
Driffield UD	A1
Drigg & Carleton	A
Droitwich MB	A
Dudley CB	A
Dunstable	A
Durham B	A
Eastbourne	A
E. Glam. & Mon. Val	A
East Grinstead District	A2
East Kesteven RD	A2
East Retford MB	A
Eastwood (Notts) UD	A
Ebbw Vale & District	A
Edenbridge	A2
Ely	A2
Epping	A
Evesham MB	A2
Exeter	A
Exmouth	A2
Fakenham	A2
Falmouth	A2
Fareham	A
Faversham	A2
Felixstowe	A1
Filey UD	A
Fleetwood	A
Flint MB	A
Folkestone	A2
Frinton	A1
Frome	A1
Gainsborough UD	A
Gateshead CB	A
Gillingham (Dorset)	A2
Gillingham (Kent)	A1
Glastonbury & Street	A2
Glossop	A
Gloucester	A
Gloucestershire, Cnty. of	‡A2
Godalming	A2
Goole, MB	A
Goole RD (part—Airmyn, Hook)	A
Gosport	A
Grantham MB	A
Gravesend	A
Grays Thurrock UD Area	A
Great Yarmouth	A
Grimsby CB	A
Grimsby RD (part)	A
Guildford District	A2
Halesowen MB	A
Halifax CB	A
Halstead	A2
Haresfield	A1
Harlow	A
Harpenden	A
Harrogate MB	A
Hartlepool B	A
Harwell	A2
Harwich	A
Haslemere	A2
Hastings	A2
Hatfield (Herts)	A
Havant	A
Haywards Heath	A2
Heanor UD	A
Hemel Hempstead	A
Henley-on-Thames	A2
Hereford	A2
Herefordshire, Cnty. of	‡A2
Herne Bay	A2
Hertford	A
Hexham RD	A
Hexham UD	A
Heysham	A
Heywood	A
Higham Ferrers MB	A
High Wycombe	A
Hinckley UD	A
Hitchin	A
Hoddesdon	A
Holywell	A
Horley	A2
Horncastle UD	A2
Horsham	A2
Horwich	A
Huddersfield CB	A
Hull	A
Hunstanton	A2
Huntingdon (Staffs)	A
Ilkeston MB	A
Ilkley UD	A
Ipswich	A
Isle of Sheppey	A2
Isle of Thanet	A2
Isle of Wight	A2
Ilfracombe	A2
Jarrow B	A
Keighley MB	A
Kendal	A
Kenilworth UD	A
Kettering MB	A
Keynsham	A
Kidderminster MB	A
Kingskerswell	A1
King's Lynn	A1
Kingsteignton	A1
Kirkham	A
Knaresborough UD	A
Knutsford	A
Lancaster	A
Leamington MB	A
Leatherhead	A
Leeds CB	A
Leek UD	A
Leicester CB	A
Leighton Buzzard	A1
Leiston	A2
Leominster	A2
Letchworth	A
Lewes	A2
Lichfield MB	A
Lincoln CB	A
Liskeard	A2
Littlehampton	A2
Liverpool	*
Llandudno	A1
Llanelly (incl. Llanelly RD)	A
Llanfairfechan	A2
Llangollen	A2
London	*
Long Eaton	A
Looe	A2
Loughborough MB	A
Louth MB	A1
Lowestoft	A
Loxton	A2
Ludlow MB	A2
Ludlow RD	A2
Luton	A
Lyme Regis	A2
Lyneham (Devon)	A2
Lytham	A
Macclesfield	A
Maidenhead	A
Maidstone	A
Maldon (Essex)	A1
Maltby UD	A
Malton UD	A2
Malvern UD	A1
Manchester	A
Manningtree	A1
Mansfield MB	A
March	A2
Margate	A2
Market Harborough RD	A1
Market Harborough UD	A
Market Rasen UD	A2
Martock	A2
Maryport	A
Matlock UD	A
Melksham	A2
Melton Mowbray UD	A1
Merionethshire	A2
Merthyr	A
Mexborough UD	A
Middlesbrough CB	A
Middleton	A
Middlewich	A
Mildenhall	A2
Milford Haven UD	A1
Minehead	A2
Monmouth—Borough of	A1
Monmouthshire	A1
Morecambe	A
Moreton Valence	A2
Morley	A
Morpeth B	A
Morpeth RD	A
Mundesley	A2
Nantwich	A
Neath & Valley	A
Nelson	A
Newark MB	A
Newbury	A2
Newcastle-on-Tyne CB	A
Newcastle-under-Lyme	A
New Forest District	A1
Newmarket	A1
Newport, Mon.	A
Newport Pagnell	A2
Newquay	A2
Newton Abbot	A1
Normanton UD	A
Northallerton District	A
Northallerton UD	A
Northampton CB	A
North Shields	A
North Walsham	A2
Northwich	A
Norton Radstock	A1
Norwich	A
Nottingham CB	A
Nuneaton MB	A
Oakham RD	A2
Oakham UD	A2
Okehampton	A2
Oldham	A
Ongar	A
Ormskirk	A
Ossett & Horbury	A
Oswestry	A2
Oundle UD	A2
Oxford	A
Oxted	A1
Padstow	A2
Paignton	A1
Par	A2
Pembrokeshire (except Milford Haven)	A2
Penmaenmawr	A2
Penrith UD	A1
Penzance	A2
Peterborough, Soke of (Eastern Regional portion)	A1
Petersfield	A2
Pickering	A2
Plymouth	A
Pontefract MB	A
Pontypool & District	A
Pontypridd District	A
Porthcawl	A
Portishead	A
Portland Bill	A1
Portsmouth	A
Port Talbot	A
Preston	A
Princetown	A2
Pudsey MB	A
Pulborough	A2
Radnorshire, County of	‡A2
Ramsgate	A2
Raunds UD	A
Rayleigh	A
Reading	A
Redcar B	A
Redditch UD	A
Redhill & Reigate	A
Rhondda Valley	A
Richmond B (Yorks)	A
Ripon MB	A2
Rochdale	A
Rochester	A1
Ross-on-Wye	A2
Rossendale Valley	A
Rotherham CB	A
Royston	A1
Rugby MB	A
Rugeley UD	A1
Rushden UD	A
Saffron Walden	A2
St. Albans	A
St. Austell	A2
St. Helens	A
St. Neots	A2
Salisbury City	A2
Salisbury Plain	A2
Sandy	A2
Sawbridgeworth	A
Saxmundham	A2
Scarborough MB	A
Scunthorpe MB	A
Seaford & Newhaven	A2
Selby UD	A
Sevenoaks	A
Shaftesbury	A2
Sheerness	A2
Sheffield MB	A
Shepton Mallet	A2
Sherborne	A2
Shipley	A
Shoeburyness	A
Shoreham	A
Shrewsbury MB	A
Sirhowy Valleys	A
Sittingbourne	A2
Skegness UD	A1
Skipton UD	A
Sleaford RD	A1
Slough, Windsor & Eton District	A
Smethwick CB	†A
Snettisham	A2
Solihull UD	A
Somerset, County of	‡A2
Southampton and Eastleigh	A
Southend-on-Sea Dist	A
Southport	A
South Shields CB	A
Southwold	A2
Spalding UD	A1
Stafford MB	A
Staines	A
Stamford MB	A1
Stantonwick	A
Stevenage	A
Stockport	A
Stockton RD	A
Stockton-on-Tees B	A
Stoke-on-Trent CB	A
Stoke Orchard	A1
Stourbridge MB	A
Stourport UD	A
Stowmarket	A1
Stratford-on-Avon MB	A
Stroud (RD Area)	A1
Sunderland CB	A
Sunningdale	A1
Sutton Coldfield MB	A
Swadlincote UD	A
Swaffham	A2
Swanage District	A1
Swansea	A
Swindon District	A
Swinton UD	A
Tamworth MB	A
Taunton	A2
Tavistock	A2
Tenterden	A2
Teignmouth	A2
Tewkesbury	A1
Thames Haven	A
Thetford	A2
Thirsk RD	A
Thorpe Bay	A
Thurrock UDC Area	A
„ North of to Billericay	A
Tilbury	A
Todmorden MB	A
Tonbridge	A1
Torquay	A1
Totnes	A1
Tring	A2
Trowbridge	A2
Truro	A2
Tunbridge Wells	A1
Tynemouth CB	A
Ulverston	A
Uppingham (Salop)	A
Uttoxeter RD	A2
Uttoxeter UD	A1
Wakefield CB	A
Wakefield RD	A
Wallsall CB	A
Wallsend B	A
Walsden	A
Walton-on-Naze	A1
Ware	A
Warminster	A2
Warrington	A
Warwick MB	A
Wednesbury MB	A
Wellingborough UD	A
Wellington UD	A
Wellington (Somerset)	A2
Wells (Norfolk)	A2
Wells (Somerset)	A2
Welwyn	A
Welwyn Gar. City	A
West Bromwich CB	A
Westbury	A2
Westcliff-on-Sea	A
Westerham	A1
West Hartlepool CB	A
Westmorland (except Kendal)	A2
Weston-super-Mare	A1
Weybridge	A
Weymouth (including Portland Bill, excluding Portland Stoneyards)	A1
Whitby UD	A1
Whitby RD	A1
Whitehaven	A
Whitley & Monkseaton UD	A
Whitstable and District	A2
Wickford	A
Widnes	A
Wigan	A
Wigton	A2
Wilmslow	A
Wilts. County of	‡A2
Wimborne	A1
Wincanton	A2
Winchester	A1
Windermere	A2
Wisbech	A2
Witham	A1
Withernsea UD	A1
Woking	A1
Wokingham	A2
Wolverhampton CB	A
Wolverton District	A2
Woodbridge	A2
Woodhall Spa UD	A
Woodstock	A2
Worcester CB	A
Workington	A
Worksop MB	A
Worthing	A2
Wrexham (incl. Cefn)	A
Wroughton	A1
Wylam	A
Wymondham	A2
Yate	A2
Yeovil Borough	A1
York CB	A
Ystalyfera	A

For Birkenhead, Liverpool and London the rates are:—Craftsmen, 4s. 1½d.; Labourers, 3s. 7d. In the case of London the rate beyond the 12-mile radius is:—Craftsmen, 4s. 1d.; Labourers, 3s. 6½d. †Plus 2d. per working day. ‡This is the County rate and applies except where higher grades are stated.

NOTE.—Carpenters and Joiners providing own tools when employed in establishments operating under the Supplementary Rules for Woodworking Factories and Shops, receive 2d. per day; when employed on other building industry work, 4d. per day.

WOMEN'S RATES.—In all districts throughout the country the rate of wages for women engaged in craft processes is 3s. 1½d. per hour. Women engaged on work other than craft processes, 2s. 9½d. per hour.

For Building Trade Wages in Scotland see page 1076

NEWS IN BRIEF

EVENING LECTURES

AMONG the post-graduate courses to be given this session by the Department of Engineering, Kingston Technical College, is a series of ten lectures, beginning on January 12, from 7 p.m. to 9 p.m., on "Reinforced and Prestressed Concrete Bridges," by R. E. Rowe, BA, and G. Little, MSc. Beginning on January 23, from 7 p.m. to 9 p.m., is a series of six lectures on "Recent Developments in the Study of Corrosion," by members of the staff of the Chemical Research Laboratory. Ten lectures on "Recent Developments in the Law Relating to Landlord and Tenant," are to commence on January 9, from 7 p.m. to 9 p.m., and will be given by F. Burrows, BA (Cantab.), barrister-at-law. Applications for enrolment to the Principal, Kingston Technical College, Fassett-road, Kingston-upon-Thames, Surrey.

A short course in "Spray Painting" will be held at the LCC Brixton School of Building, Ferndale-road, SW4, from January 9 until March 27, 1956. These courses are in two grades, Elementary and Intermediate, each of 12 weeks' duration, requiring an attendance of two evenings each week, and are intended for craftsmen already with adequate industrial experience who wish to broaden their knowledge in this branch of the Painting and Decorating trade.

A series of ten lectures on subjects of especial interest to painters and decorators will also be held at this School each Monday evening at 7 p.m., from January 16 until March 19. Each lecture will be given by a specialist on the subject and will be followed by open discussion. The seventh course, on "Colour and Design," will commence on January 13, at 6.30 p.m. The courses are of 12 weeks' duration and require an attendance of one evening each week. Details from the Secretary of the School at Ferndale-road, SW4.

IMPROVED MANCHESTER AIRPORT

Plans for new airport buildings and facilities for Ringway Airport have been announced by Manchester Airport Committee. The design of the new buildings and internal layout have been evolved by the City Architect, Mr. L. C. Howitt, FRIBA, MTPI, after a study of the main international airports completed since the war. The cost is estimated at £2,159,176 for the new terminal building, and £800,000 for an extension to the main runway. The terminal building would be built of light steel framework and glass. Its interior would include many prefabricated partitions to allow for easy alteration and expansion, and restaurants, snack bars and shops would be included, with private dining-rooms and dressing-rooms. The roof would serve as a public enclosure and a control tower would form a third storey at the east end of the main building. Proposals were made about three years ago by the Ministry of Transport and Civil Aviation, involving estimates of £425,000 for a terminal building, £275,000 for the apron, and up to £400,000 for the runway extension. An amended scheme based on these earlier proposals was submitted by the Ministry recently, but has been rejected by the Airport Committee. City Council approval is now being sought to the latest proposals.

IAAS NORTHUMBRIAN CHAPTER

On December 3, the Northumbrian Chapter of the Incorporated Association of Architects and Surveyors came into being. The inaugural meeting was held at the Royal County Hotel, Durham City. There was a very good attendance from members within the new Chapter boundaries. The proceedings were opened by the chairman of the meeting, Mr. C. F. Wood, who then introduced Mr. R. F. Isted, general secretary of the association. The following were elected officers and committee members for the Chapter: Chairman, Mr. F. Iddison; vice-chairman, Mr. W. T. H. Kent; hon sec., Mr. J. B. Platt; hon treasurer, Mr. R. H. Allison; hon. auditors, Messrs. J. Hall and J. G. Hellawell; committee, Messrs. J. Bates, L. G. Clay, H. Cox, J. B. Moore, R. A. Parker, and C. F. Wood.

PLUMBERS' AWARDS

At the annual presentation of awards to plumbing students on December 9, at the Department of Building, Salmon Pastures, Sheffield College of Commerce and Technology, Mr. W. Alexander, head of the department, announced a new course on "Plastics in Plumbing." It will be the first of its kind in Yorkshire and will start in the New Year with a series of five- to six-week courses of two evenings a week. It is designed for journeymen plumbers and not for apprentices, and it might be necessary to limit the numbers in the first series of courses. Two full-time teachers of plumbing are to spend their Christmas vacation at the ICI laboratories in Welwyn to gain up-to-date knowledge of the use of plastics.

BBC HANDBOOK, 1956

A guide to the organisation and work of the BBC, with up-to-date statistics about the Corporation, is provided again this year by the publication of the *BBC Handbook 1956* (288 pp., 5s.). The obligations of the BBC under its Charter as a public service broadcasting organisation and the rôle of the BBC in "acting as trustee for the national interest" in political, religious, controversial and educational broadcasting, as well as in the field of entertainment, are explained. Writers, composers and those wishing to apply for auditions will find the information they want in a section "Practical Advice," which also explains the BBC rules for S O S messages and appeals.

"NEW FIELDS FOR INDUSTRY"

"New Fields for Industry," an industrial handbook of North-east Lancashire, has recently been compiled with the object of proclaiming the potentialities of the Lancashire part of the North-east Lancashire Development Area. The booklet has been issued by the North-east Lancashire Development Committee, Lancashire and Merseyside Industrial Development Association, Cleveland Buildings, 94, Market-street, Manchester.

OCTOBER EMPLOYMENT

There was a decrease of 6,000 during October in the number of workers employed in the building and contracting industries, according to statistics issued by the Ministry of Labour. The numbers employed in these industries at the end of October were 1,472,000, the total number in civil employment at that time being 23,060,000.

LIVERPOOL HOUSING PROGRAMME

Various schemes involving a total cost of £24½ million (of which it was proposed to spend £12½ million next year), were placed before the Liverpool City Council at a recent meeting. However, the Council has cut the proposed expenditure for the coming year by £2½ million, and the Corporation Committees involved are to revise their respective building programmes. It was stated that the programmes for next year involved an increased expenditure of £3,365,000 compared with the amount estimated for last year.

BUILDING MASTICS

The demand for mastics that can take up movement springs from the major change in building construction, the use of large pre-formed cladding units. Just issued, Building Research Station Digest No. 82 discusses the different kinds of mastic, the general properties that most mastics should have, special properties for certain uses, and relates these to some of the many applications. The Digest, which also discusses bonding new concrete to old, can be obtained from HMSO, price 3d.

SURVEYOR'S PRIVATE WORK

Mr. Trevor Spurr, surveyor and sanitary inspector to Brigg Urban District Council for the past six and a half years, was given three months' notice of dismissal, on December 9, on the grounds of alleged contravention of a ban on private work imposed by the Council two years ago.

MEMBER OF COUNCIL

Mr. P. W. Gamble, managing director of Messrs. Stephens and Carter Ltd., was elected a serving member of the Council of the Truck and Ladder Manufacturers' Association at the last annual general meeting of the association (reported in *The Builder* of November 25).

WOOD-PRESERVING CONVENTION

A record of the 1955 annual convention of the British Wood Preserving Association, which was held at Cambridge from June 2 to 24, has recently been issued. Copies are available (price 8s. 6d.) from the Secretary, BWPA, 6, Southampton-place, WC1.

PERSONAL COLUMN

The board of the Abbey National Building Society announced that, as a result of the impending retirement of Mr. W. R. Sandison, joint general manager, on December 31, the following appointments have been made with effect from January 1: Mr. C. F. Askew, FACCA, is to continue as joint general manager, but in future will be responsible chiefly for mortgage administration. Mr. S. W. G. Morton is to be manager of branches and agencies, while continuing to be responsible for establishment administration.

Mr. John Peers, of Chester, has been appointed as technical representative to British Plimber, Ltd., in Cumberland, Westmorland, Lancashire, Cheshire and North Wales. Mr. John Claxton has been appointed in a similar capacity for Northumberland, Durham, Yorkshire, North Derbyshire and North Lincolnshire. Mr. Claxton's headquarters will be in Leeds.

Mr. B. Watson, chairman and managing director of Expandite, Ltd., has announced that two senior executives of the company, Mr. A. E. Potter and Mr. T. Pooley, have been appointed directors.

Mr. R. G. Puttick has been promoted chief surveyor to Taylor Woodrow Construction, Ltd., of London, and has been appointed to the board of directors. He succeeds Mr. C. J. Lawson, appointed commercial director. Mr. Puttick joined the firm in 1940 as a junior quantity suveyor, and was appointed deputy chief surveyor in 1950.

OVERSEAS BUILDING

[*From Our Own Correspondents*]

EGYPT.—The architects of the Nile Hilton Hotel, near the Kasr-el-Nil Bridge over the Nile, are James Mckeown and James Filson. The decorators are Richard Bird and Scollard Maas. . . . Architects of the new Shepheard's Hotel are Elias Shaghoury and Ahmed Fouad; Elias Shaghoury and Piere Vincenon are the decorators. Both hotels were illustrated by perspectives in *The Builder* of October 7.

FRANCE.—Tenders for the construction of the UNESCO building have been invited internationally. Contracts have already been placed with eleven French firms and also with contractors in Italy, Great Britain, Belgium and Switzerland. A contract for plumbing and sanitary fittings has been awarded to Messrs. McDonald, of Kirkcaldy, Scotland.

IRAN.—The Seven Year Plan Organisation has been authorised to allocate £500,000 to the Independent Irrigation Department for the building of small dams. The Plan Organisation will shortly hold an international call for tender, for the appointment of consulting engineers to supervise the building of a number of medium-sized dams. . . . The Iranian Government has approved a Bill increasing to £500,000 the funds available, to the Ministry of Roads and Communications, for road maintenance.

IRAQ.—A contract valued at £1¼m. has been awarded for the construction of 500 houses for Government officials in a new housing estate near Baghdad. The project is being financed by the Mortgage Bank.

PRIEST RAPIDS DAM, USA

*The Public Utility District of Grant County is to issue a formal call for bids on the construction of the Priest Rapids Dam, power plant and appurtenances on the Columbia River, early in 1956. The dam will consist of 6,400 ft. of earth embankment, 260 ft. of concrete gravity section, 1,150 ft. of deep gated concrete spillway and 1,025 ft. of powerhouse with integral intake, or a total length of 8,835 ft. The dam is designed to develop a head of approximately 81 ft., and the maximum height from deepest excavation to the roadway will be about 175 ft. The concrete spillway will have 22 Tainter gates, 40 ft. wide by 50 ft. high, between concrete piers and will carry a bridge with 12-ft. roadway.

The major quantities involved in the construction include excavation of 3m. cu. yds.; an embankment of 3½m. cu. yds.; 840,000 cu. yds. of concrete; and 46m. lb. of reinforcing steel. Construction will be accomplished under a fixed-unit price and lump-sum type contract. Telephone inquiries should be made to Chancery 4411, ext. 738 or 771, quoting ref. ESB 25131/55.

BUILDERS' WOODWORK

* The Longhorn Sash and Door Co., 2200 East 6th-street, Austin, Texas, wish to communicate with United Kingdom manufacturers of builders' woodwork (plywoods and other various woods). The firm would import for their own account, and would cover the Southwest. Written inquiries to Mrs. Louis McElroy of the firm quoting prices in dollars cif Houston, Texas. Telephone inquiries, Chancery 4411, ext. 776, quoting ref. ESB 26134/55.

DOMESTIC EQUIPMENT

* Stansfield Ratcliffe and Co., Ltd., 101-105, Pine-street, Durban, wish to represent in Natal, United Kingdom manufacturers of water heaters and domestic cooking equipment (gas-operated). The gas used will be bottled propane or butane.

Manufacturers interested in this agency inquiry should write direct to Stansfield Ratcliffe and Co., Ltd., notifying the United Kingdom Trade Commissioner, 410 United Buildings, Smith-street, Durban, that they have done so. Telephone inquiries to Chancery 4411, ext. 776, quoting ref. ESB/26399/55.

CABLES TENDER

* A tender specification for cables and accessories for the Damodar Valley Electricity Department, India, is now available. Telephone inquiries to Chancery 4411, ext. 738 or 771, quoting ref. ESB/25845/55.

HAND TOOLS IN GOLD COAST

* A report has been prepared by the United Trade Commissioner at Accra on the market for hand tools in the Gold Coast. There is no extensive local manufacture and there is some interest over the whole range. The bulk of the demand is in agricultural and ordinary tradesmen's tools. The report gives a selection of specimen prices, but it is almost a tradition in the Gold Coast "to charge what the market will bear." Fixed prices are the exception, not the rule. There is a duty-free import of some hand tools, but other classes are subject to duty at 20 per cent. Telephone inquiries to Chancery 4411, ext. 353, quoting ref. ESB/16359/55.

WELDING ACCESSORIES

* The Marquette Manufacturing Co. Inc., 307, East Hennepin-avenue, Minneapolis, 14, wish to contact United Kingdom manufacturers of welding accessories to sell on a national basis. Manufacturers interested should communicate direct to Mr. E. F. Salomonsen. Telephone inquiries for detailed information, Chancery 4411, ext. 776, quoting ESB/26709/55.

ADAMINABY DAM, AUSTRALIA

*Tenders are to be invited soon, by the Dept. of Public Works, NSW, for the construction of Adaminaby Dam. As the period for tendering will be limited, interested contractors are invited to visit the site and inspect the plant, equipment and buildings which will be made available to the successful tenderer.

Telephone inquiries quoting reference ESB/26878/55, to Chancery 4411, ext. 738 or 771.

FURNISHING FOR RAILWAYS

*The Stores Department of the South African Railways have called for tenders for the following: 11,200 yd. hard faced green linoleum, 200 yd. blue rubber flooring (Tender No. E.5479: linoleum for carriage trimmings); and 525,000 sq. ft. (actual) of Baltic Deal and flooring (Tender No. A.5466 Baltic Deal and flooring).

Telephone inquiries quoting respective references, ESB/26701/55 and ESB/26817/55; to Chancery 4411, ext. 738 or 771.

SOUTH AFRICAN IMPORT CONTROL

Regulations for 1956

THREE notices have been published in Union of South Africa Government Gazette Extraordinary of November 25 announcing certain import control arrangements for the coming year.

Notice No. 2349 introduces a new procedure in respect of:—

1. Wood, unmanufactured; wooden flooring and ceiling boards and dowels.

2. Milled steel products, which for the purpose of this notice are defined as: (a) bars; angles; channels; tees, joists; window and door sections; plates; sheets; tinplate; terne plate; rails; (b) tool steel; spring steel; stainless steel.

Permits for these items, which were previously subject to raw materials quotas, will, from now onwards, be issued freely to registered importers against evidence of the placing of firm orders.

Notice No. 2350 deals with the "Restricted" List, and Notice No. 2351 publishes a new "Priorities" List for 1956 permits which contains a few additions and amendments to the list valid for 1955 permits. Fuller information is printed in the *Board of Trade Journal* of December 10.

* From the Board of Trade Special Register Information Service.

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COLONIAL RESEARCH

More Money for New Schemes

GRANTS totalling £533,548 were approved for 52 new Colonial Research Schemes and 48 supplementary schemes in 1954-55, states the report of the Colonial Research Council, published on November 30, together with the reports of the specialist advisory research committees and councils which are annexed to it. Approximately £8,000,000 is allocated to future colonial research from colonial development and welfare funds, arising from the extension to March, 1960, of the Colonial Development and Welfare Acts, legislation for which was made earlier this year. This amount is made up of £3,976,000, being the overall unspent balance at March 31, 1955, of the previous research allocation, together with an allocation of new funds amounting to £4,000,000. The total allocation for the period 1955-1960 will call for an average annual expenditure of £1,600,000. Expenditure for the year ended March 31, 1955, was £1,173,381 and the average annual expenditure over the last four years was approximately £1,240,000.

Since 1940 grants allotted to Colonial Development and Welfare research schemes amount to some £12,500,000, chargeable against the funds provided under the 1945 and 1950 Colonial Development and Welfare Acts. The financing of many of these schemes is assisted by Colonial Governments from their own resources. Actual disbursements since 1940 total about £9,225,000.

About one-third of the total allocation since 1940 has been for agricultural, animal health and forestry schemes, 15 per cent. for medical research, 12 for fisheries research, 10 for tsetse and trypanosomiasis research, 9 for social science and economic research, 8 for insecticides research, 5 for research sponsored by the Colonial Products Research Council, 3.6 for anti-locust research and 5.5 per cent. for miscellaneous schemes, including building and road research. Approximately 39 per cent. of the allocation has been for schemes to benefit the East African territories 18 for the West African group, 10 for the South-East Asian territories and Hong Kong, 8.8 for the West Indian colonies, British Guiana and British Honduras, 5.6 for Northern Rhodesia and Nyasaland, and 18.6 per cent. for other territories and for schemes of general interest.

New schemes during the year include:

East Africa: £104,024 for the establishment and maintenance, for an initial period of two years, of the East African Scientific and Industrial Research Organisation.

West Africa: £10,955 for the establishment of the West African Standing Advisory Committee for Agricultural Research and £4,500 for a social and anthropological investigation of the State of Gonja, the Gold Coast.

Central Africa: £17,780 for a scheme of silvicultural research in Nyasaland.

Aden: £22,329 for the establishment of an Agricultural Research Station.

Sarawak: £4,300 for an investigation into the control of pepper disease.

West Indies: £2,570 for an expedition to the Far East by members of the Imperial College of Tropical Agriculture, Trinidad, to collect bananas with a view to introducing new genes into breeding work in Trinidad; £6,780 for a pilot scheme for the establishment of a Nutritional Research Unit in Jamaica.

United Kingdom: £50,000 for the establishment and maintenance of the Colonial Road Research Section of the Department of Scientific and Industrial Research Road Research Laboratory, Harmondsworth.

RESEARCH ACTIVITIES

Points from the reports of research councils and committees are: large-scale tests on methods of spraying flying locust-swarms from aircraft were carried out early in 1955; air photography of about 9,000 square miles in Uganda was carried out; geologists in Cyprus found new and safer sites for villages to replace those destroyed by the earthquake of September, 1953; drilling in Nigeria continued to add considerably to the known reserves of coal; successful tests have been made in East Africa aimed at preventing loss of water from reservoirs by evaporation by introducing a chemical which forms a thin skin over the surface; and studies were made in Buganda and the North Nyanza district of Kenya of changes which have come about in the patterns and levels of society.

HOUSE BUILDING IN HUNGARY

Private house-building is on the increase in Hungary, and local councils in the first six months of 1955 granted nearly 19,000 sites at concessional prices to intending house builders, issuing about 30,000 building permits. State long-term loan allocations for private builders total £11,340,000 this year against £5,400,000 for 1954. It is anticipated that 10,000 private houses will be completed this year, with several thousand more under construction. A further 3,500 are being built under a scheme for miners and bricklayers in villages.

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AFRICAN CONSTRUCTION

[*From a Special Correspondent*]

Building in the Union: Building plans passed in the nine principal urban areas of the Union during the first nine months of the year totalled £59m. The comparative figure for the previous year was £53m.

Materials generally are in good supply. Timber merchants report that turnovers have remained steady, with stocks of good timber fairly ample and overseas deliveries coming through regularly and freely in spite of the increased freight rates. The galvanised steel sheeting position, which was difficult earlier in the year, appears to be easing, and it is only South African cement that is still in short supply in the industry. It is understood, however, that one of the Union's larger cement manufacturers will increase production by at least 50 per cent., which should alleviate the present shortage to some extent.

SA Airways HQ: The Railway Administration has called for tenders for the construction of a South African Airways headquarters office block at Jan Smuts Airport, near Johannesburg, estimated to cost £90,000.

New Durban Building: Plans for a £300,000 multi-storey building to stand in Nicol-square, Durban, include a roof-top landing area for helicopters. The entire ground floor of the new building is to be occupied by South African Airways.

Cement Near Dar-es-Salaam: Recent investigation by the Department of Geological Survey has revealed at Wazo Hill, near Dar-es-Salaam, Tanganyika, deposits of raw material which would appear to be suitable in character and sufficiently extensive in quantity to justify the setting up of a cement manufacturing plant. The Tanganyika Department of Mines is inviting tenders in terms of proposals for the establishment of a plant.

Witwatersrand University: Construction of a specially-designed building for tuition in architecture and the fine arts will be started at the University of the Witwatersrand next year. To cost £170,000, designs have been prepared under the direction of Professor John Fassler, head of the Department of Architecture.

New State Buildings, OFS: An estimated £600,000 is to be spent in the three main towns of the Free State goldfields, Welkom, Odendaalsrus and Virginia, on Government buildings and accommodation for public servants.

Building in Bulawayo: Building activity in Bulawayo so far this year has outstripped that of the last three years. By the middle of November plans had been approved by the City Council for buildings valued at £2,687,386. More than £500,000 is being spent on blocks of flats.

CREDITS FOR DUTCH HOTELS

Because, in spite of much expansion and improvement in the hotel accommodation in the Netherlands, the available accommodation is still not considered sufficient to meet the expected future trends of tourism, the Dutch Government has decided that it must still continue to stimulate hotel construction. A plan for the granting of credits has been devised in conjunction with the finance corporation for Holland's national reconstruction.

The SCOTTISH BUILDER

Cumbernauld New Town

THE designation Order came into force on November 12 for Scotland's Cumbernauld New Town. Cumbernauld is the first new town to be designated in Great Britain since 1950. MR. JAMES STUART, the Secretary of State for Scotland, informed a member who asked a question in the House of Commons on November 12 that the area designated is identical with that referred to in the draft Order of July 23.

Cumbernauld, designed to relieve congestion in the city of Glasgow, is the third new town to be designated in Scotland. When fully developed the population will be about 50,000.

Edinburgh Development Plan

AT A MEETING of Edinburgh Corporation on December 3, the Lord Provost, MR. J. G. BANKS, expressed a hope that the Secretary of State for Scotland would not delay a decision on the city's development plan. The fact that the plan was still a draft made it difficult for the Corporation to advise prospective developers on likely trends in the future. So far the secretary had intimated a decision on only a small part of the plan.

The Lord Provost said that the Planning Committee were in the process of considering an interim report by members of an independent panel on Princes-street. It was hoped there would emerge a code of principles to ensure the determination of a wise policy for that area.

At a meeting of the Corporation on December 8, it was agreed to make a saving of £521,665 in the original capital expenditure programme for 1955-56. It was not, however, proposed to make any cuts on housing, health or transport.

Loch Shin Tunnel Project

THE FINAL break-through in the five-mile tunnel built by George Wimpey and Co., Ltd., Edinburgh, in connection with the £9m. Loch Shin hydro-electric scheme near Lairg, Sutherland, has now been made, three months ahead of schedule, after 15 months' work. An average of a mile of tunnel had been dug every three months. Wimpey's part of the project includes a generating station and a dam, and the whole work is expected to be finished well within the contract period of three and a half years.

Russian Visit to Glasgow

A DELEGATION of 11 Russian building experts visited Glasgow on December 3 to inspect a seven-roomed Bellrock bungalow, built in a week, and later inspected a Clydebank factory where the external and internal walls of the house were mass-produced from gypsum plaster. The Russians also saw an eight-storey block of flats at Clydebank incorporating the new building material, and expressed their belief that the new method could make an important contribution towards speeding up house building.

Reference to the Russian delegation's visit was made at a conference of the Scottish Association for Building Education in Glasgow on the same day by MR. JOHN LAWRENCE, head of the Glasgow building firm manufacturing the new material. He thought the Russians would be using Bellrock panels and walls in their housing and public building schemes within a year. Russia, he said, had vast deposits of gypsum which were readily accessible.

Houses at Castlemilk

THE HOUSING Committee of Glasgow Corporation have recommended acceptance of an offer by Atholl Houses, Ltd., amounting to £378,869, for the erection of 246 houses at Castlemilk, unit number 4, it being the lowest.

Sutherland Roads

SUTHERLAND County Council have agreed to contribute £21,000 towards the repair of 23 miles of the Bonar Bridge to Durness-road. The total cost will be £66,000. The North of Scotland Hydro-Electric Board are also to contribute £21,000, and the Air Ministry a sum of £24,000.

Lyric Theatre, Glasgow

A TOTAL of £13,780 has been subscribed to date towards the rebuilding of the Lyric Theatre, Glasgow, destroyed by fire two and a half years ago, and work on rebuilding is steadily progressing. The design provides a compact and intimate auditorium, with ample stage accommodation for the presentation of musical and dramatic productions.

Ayr Planning Modifications

TWO OF THE THREE major modifications made by Mr. James Stuart, Secretary of State for Scotland, to the development plan for Ayr are to preserve its rural character.

The town council had scheduled land at Doonbank for housing development. However, the Secretary of State has reserved it as an open space.

To preserve the view from inland of Greenan Castle and the Heads of Ayr, Mr. Stuart has modified the plan so as to reserve against development an area of land at Cunning Park which the town council proposed should be developed for housing.

THE ORGANISATION OF BUILDING FIRMS

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SCOTTISH BUILDING TRADE WAGES

FOLLOWING are rates of wages authorised by the Scottish National Joint Council as from April 18, 1955. They apply to the whole of Scotland, including the islands of Orkney, Shetland, etc.

Grade A: Craftsmen, 4s.; Labourers, 3s. 5½d.

For apprentices, the rates are:

Year.	Percentage of Craftsman's rate.	For week of 44 hours.
		s. d.
1st	25	44 0
2nd	33½	58 8
3rd	50	88 0
4th	66⅔	117 4
5th	75	132 0

For female labour, the rates are:

	s. d.
Operatives on craft operations (at end of probationary period)	3 5½
Operatives on labouring operations (at end of probationary period)	3 2

NEW BUILDINGS

Aberdeen.—Plans approved by the Corporation for additions and alterations, including new gymnasium at the Middle School. A: Messrs. J. A. Allan, Ross & Allan (F/A), 10, Bon Accord-sq., Great Western-rd., Aberdeen.

Aberdeen.—Development has been announced of the old Palace to be carried out by Cohesion, Ltd. Plans by firm's architects to incorporate shops and suites of offices and a fourth floor to the premises, are awaiting final approval.

Carmyle.—Lanarkshire Council has plans prepared for an approved scheme: the first development of Park Site, consisting of 74 houses. County Housing A: Mr. Samuel MacColl (A), County Bldgs., Bockford-st., Hamilton West.

Fifeshire.—Plans approved by the Council for extensions and the modernisation of the Viewfield Jun. Sec. Sch. (est. cost £132,000). Council A: Mr. Robert S. Lawrie (F), Planning & Architectural Dept., County Bldgs., St. Catherine-st., Cupar.

Forfarshire.—Plans in hand for Messrs. F. W. Woolworth & Co., Ltd., for enlargement and alterations at 17 to 21, Castle-st., Forfar (est. cost £25,000). A: Mr. E. Woodbourne (F), 1/5, New Bond-st., London, W1.

Glasgow.—Approved plans by their architects, Caxton House, Tothill-st., London, SW1, for additions and alterations to the Kinning Park Bldgs. of the Vacuum Oil Company, Ltd.

Glasgow.—Plans by their architects have been approved for 66 houses at a site at Sunhill by Messrs. Mactaggart & Mickle, Ltd., 187, West Regent-st., Glasgow, WC2.

Glasgow.—The Corporation will provide 75 houses for the Police in 1956-57.

Glasgow.—Plans approved for new primary school at a site at Granhill. A: Messrs. Launcelot H. Ross & Partners (F/A), 79, West Regent-st., Glasgow, WC2.

Glasgow.—Approved plans by the Planning & Architectural Dept., Municipal Bldgs., George-sq., Glasgow, C1, for new Lighting Department at Great Western-rd.

Glasgow.—Plans by own staff of designers have been approved for new extensions for The Lambhill Ironworks, Ltd., 225, St. Vincent-st., at Strachur-st., Lambhill.

Glasgow.—Plans by their own architects have been approved for additions and alterations, etc., at St. Georges-rd., St. Georges Cross, for Messrs. Currys, Ltd., 77, Uxbridge-rd., Ealing, London, W.5.

Glasgow.—Approved plans by own draughtsmen for new buildings at South-st., Scotstoun, for Messrs. Barclay, Curle & Co. Ltd., shipbuilders, Whiteinch Shipbuilding Yard, Whiteinch, Glasgow, WC4.

Glasgow.—Plans approved for alterations and additions, etc., for The University Court of the University of Glasgow at Horsetlethill-rd. A: Mr. William J. Smith (F), 204, George-st., Glasgow, C1.

Glasgow.—Plans approved by their own architects for buildings at London-rd., Bridgeton, for Messrs. W. & J. R. Watson & Co., Ltd., 1, Great King-st., Edinburgh.

Greenock.—Plans in hand for scheme of houses at Grant-st. and Bawhirley-rd. A: Mr. Robert L. Rankine (F), Master of Works Offices, Municipal Bldgs., Wallace-sq., Greenock. QS: Messrs. Woodrow & Thomson, 133, Cathcart-st., The Square, Greenock.

Lanarkshire.—Plans approved for new buildings at Bodley Colliery, Glenboig, and at Kenny Colliery, Glenspin. A: Staff Engineers, Coal Board Offices, 36, Robertson-st., Glasgow, WC2.

Ninewells.—Plans in hand for St. Andrews University new medical school on a Forfarshire site. A: Mr. Robert H. Matthew (F), Keith Marischal, Humbie, East Lothian.

Stirlingshire.—Plans in hand for additions to Naddiston Protestant Primary School at Falkirk Council A: Mr. Alexander J. Smith (A), Planning & Architectural Department, Old Infirmary Bldgs., Spittall-st., Stirling.

The Builder FUTURE CONSTRUCTION

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

DECEMBER 19.

†**Ashton-under-Lyne BC.**—134 flats and maisonettes in three- and four-storey traditional construction at Charlestown. TC. Tenders in Feb.

DECEMBER 20.

*†**Birmingham City C.**—Home for 75 aged persons at Sutton-rd., Erdington. City A, Civic Centre. Dep. £2 2s. Tenders by January 17.

*†**Essex CC.**—Erection of Colchester County High Sch. for Girls (approx. value £153,000). County A.

DECEMBER 21.

*†**Bristol City C.**—Three-storey block of two-bedroomed flats at Swanmoor-cres., Henbury. City A. Dep. £2 2s.

DECEMBER 23.

*†**Bristol City C.**—Builder's work, Vegetable Market. H. H. Moore, City Estates S & Valuer, The Exchange, Corn-st. Dep. £2 2s.

*†**Bristol City C.**—Reconstruction, 20, Christmas Steps. H. H. Moore, City Estates S & Valuer, The Exchange, Corn-st. Dep. £2 2s.

*†**Croydon CB.**—86 flats in r.c. construction at Duppas Hill-terrace/Old Town. BE.

*†**Salford City C.**—Erection of school at Eccles Old-rd. J. C. Prestwich & Sons, Bradshawgate-chbrs., Leigh, Lancs. Dep. £3 3s.

*†**Weston-super-Mare BC.**—100 traditional dwellings at Oldmixen estate (site No. 1). TC, Town Hall.

DECEMBER 24.

*†**Twickenham BC.**—Eight flats for aged persons, Milton-rd., Hampton. BE. Dep. £2 2s.

DECEMBER 28.

*†**Crawley Development Corporation.**—Ten houses and garages, Langley Green site, No. 8a, Chief A, Broadfield, Crawley.

*†**Crawley Development Corporation.**—Ten shops with 11 maisonettes over, and 12 garages, Southgate site No. 5, and 4 shops with 5 maisonettes over, and 4 garages, Three Bridges site No. 10 (Stage 2). Chief A, Broadfield, Crawley.

*†**Essex CC.**—Erection of Wanstead Nightingale Sec. Sch. (approx. value £137,000). County A, County Hall.

*†**Essex CC.**—Erection of (a) Aveley County Tech. Sch. (approx. cost £228,000); Harlow College of Further Education (approx. cost £143,000). County A.

*†**Essex CC.**—Second instalment of North-East Essex Technical College, Colchester. County A, Chelmsford.

DECEMBER 29.

*†**Belfast City C.**—240 dwellings at Annadale Embankment. TC. City Hall, P.O. Box 234.

*†**Lincoln (Kesteven) CC.**—County sec. mod. sch., "The Grove," Earlesfield, Grantham. County A, Sleaford. Tenders by January 23.

*†**Northumberland CC.**—Alterations and extensions to Whitley Bay fire station. County A, County Hall, Newcastle-on-Tyne, 1. Dep. £2 2s.

DECEMBER 30.

Manchester City C.—161 houses and 36 maisonettes and flats at Vernon-rd. and Higher Bent-la., Bredbury. Director of Housing, Town Hall, Manchester, 2.

*†**Sevenoaks RDC.**—(a) Three pairs of houses; (b) one block of six houses, and (c) four blocks of one/two-bedroom flats at Mount Pleasant-rd., Weald. E&S, "Inglewood," Oak Hill-rd. Dep. £2 2s.

*†**Swansea CB.**—Erection of Primary Sch. at Bonymaen. Boro' A, The Guildhall. Dep. £5.

DECEMBER 31.

*†**Chingford BC.**—New municipal hall and county public library. TC. Town Hall. Dep. £5 5s.

†**Tottenham.**—Additions and alterations to Central Library. Boro' E. Town Hall, N15.

JANUARY 3.

*†**Biggleswade UDC.**—Six old people's bungalows at Back-st. E&S, Stratton House.

*†**Rickmansworth UDC.**—47 garages at various estates. E&S, Council Offices. Dep. £2 2s.

JANUARY 4.

*†**Mitcham BC.**—Block of 12 flats at junction of Inglemere-rd. and London-rd. Deputy BE&S, Town Hall. Tenders by January 28.

JANUARY 6.

Chertsey UDC.—Workshop at compressor station, Pyrcroft-rd. E&S, Council Offices. Dep. £1 1s.

JANUARY 9.

*†**Holland CC.**—Erection of (a) Holbeach 3-form sec. mod. sch; (b) Long Sutton 4-form sec. mod. sch. County A, County Hall, Boston.

*†**Lincoln (Parts of Kesteven) CC.**—Two smallholding farmsteads at Bourne (Dyke) estate. County Land Agent, County Offices, Sleaford.

JANUARY 10.

*†**Gwynedd Police Authority.**—Three pairs of houses at Trinity-ave., Llandudno. County A, County Offices, Caernarvon. Dep. £2 2s.

Petworth RDC.—22 units of accommodation of various types at Back-la., Plaistow, housing estate. Godman & Kay (F), 13, North Parade, Horsham, Sussex.

JANUARY 11.

*†**Croydon CB.**—Gymnasium at Heath Clark Sch., Waddon. Chief Ed. Officer, Katharine-st. Dep. £1.

*†**Reading CB.**—Public conveniences at Prospect Park. Boro' A.

JANUARY 12.

*†**Crewe BC.**—Crematorium at Crewe cemetery. BE&S, Municipal-bldgs. Dep. £2 2s.

*†**Tipton BC.**—144 dwellings at Princes End site. Housing A, Municipal-bldgs. Dep. £3 3s.

JANUARY 13.

*†**Lindsey CC.**—Junior sch. at Grange-la., Scunthorpe. County A, County Offices, Lincoln.

*†**Sunderland CB.**—Erection of Farringdon Primary Jun. and Infants Sch. and extension to the College of Art, Backhouse Park. Boro' A, Grange House, Stockton-rd. Dep. £2 2s.

JANUARY 17.

*†**Walthamstow BC.**—Erection of (a) two flats at Salop-rd. (b) six flats at Blackhorse-la./Lancaster-rd.; 12 flats at junction of Lea Bridge-rd./Shernhall-st. Boro' A, E&S, Town Hall. Dep. £2 2s. each scheme.

JANUARY 19.

*†**Lincoln (Parts of Kesteven) CC.**—New storage accommodation at Fire Brigade headquarters, Grantham. County A, County Offices, Sleaford.

JANUARY 20.

*†**Cardiganshire CC.**—Erection of primary sch. at (a) Cwrtnewydd (nr. Llanybyther); (b) Trewen (nr. Newcastle Emlyn). County A, County Hall, Aberayron. Dep. £2 2s.

JANUARY 25.

Airedale and Wharfedale Joint Crematorium Committee.—Construction of crematorium, chapel, administrative offices and drives. A: F. L. Charlton (F) and J. L. Crowther, MBE (A). Clerk of Jt. Com., Town Hall, Ilkley. Dep. £2 2s.

PAINTING, MATERIALS, ETC.

DECEMBER 28.

*†**Durham CC.**—Heating and c.h.w. installations at Bishops Auckland Tech. Coll. County A, South-st.

Maidenhead.—Annual tenders for road-making and other materials and services. TC.

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DECEMBER 31.

*†**Bristol City C.**—Installation of heating, hot and cold water supplies, gas and fire mains at Hengrove. Sec. sch., stage 1I. City A. Dep. £2 2s.

JANUARY 1.

*Litherland UDC.—Materials for 18 houses at Southport-rd. E&S, Town Hall.

JANUARY 2.

Finsbury MBC.—Annual tenders for road-making and other materials and works. TC. Finsbury Town Hall, Rosebery-ave., EC1.

Southgate BC.—Annual tenders for road works and materials. BE&S, Southgate Town Hall, N13.

JANUARY 3.

Wolverhampton CBC.—Annual tenders for road building and other materials. TC.

JANUARY 7.

Banstead UDC.—Annual tenders for road-making and other materials and works. H. Carmichael, MIMunE, MRSanI, E&S, Council House, Brighton-rd.

Bexhill BC.—Annual tenders for road-making and other materials and services. TC.

JANUARY 9.

Hereford City C.—Annual tenders for road-making and other materials. City S.

Ilford BC.—Annual tenders for road-making and other materials and works. TC.

Lincolnshire, Parts of Kesteven CC.—Annual tenders for road-making and other materials and works. C., County Offices, Sleaford.

Northamptonshire CC.—Annual tenders for road-making and other materials and services. County S. Guildhall-rd., Northampton.

JANUARY 11.

Harrow BC.—Annual tenders for road-making and other materials and works. BE&S, 48, Uxbridge-rd., Stanmore, Middx.

JANUARY 13.

*Southport CB.—Painting work on the pier and foreshore (Specification 1) and on nine iron shelters on the promenade (Specification 2). Boro' A and Town Planning Officers Dept., 99/105, Lord-st. Payment £1 1s. each specification.

JANUARY 16.

Boston RDC.—Annual tenders for road-making materials and work. C, 126, London-rd., Boston, Lincs.

JANUARY 21.

Ealing BC.—Annual tenders for road-making and other materials and works. TC.

JANUARY 28.

Camborne-Redruth UDC.—Annual tenders for building, road-making and other materials and services. C.

JANUARY 31.

Malden and Coombe.—Annual tenders for road-making and other materials and services. BE&S. New Malden, Surrey.

NO DATE.

Devon CC.—Annual tenders for road-making materials and services. C, The Castle, Exeter.

MUNICIPAL AND CIVIL ENGINEERING WORKS, ETC.

JANUARY 3.

*Watford RDC.—Completion of site works at Cecil Lodge, Abbots Langley. Dawe, Carter & Partners, 33, Clarendon-rd., Watford. Dep. £1 1s.

JANUARY 4.

Bingham RDC.—Construction of 10,000 yds. 6-18 in. dia. sewers (500 yds. in heading), 1,500 yds. rising main, two pumping stations, sewage disposal works, etc., at Keyworth area. William Saunders & Ptnrs., consultants, 24, Castle Gate, Newark-on-Trent. Dep. £5 5s.

JANUARY 7.

Hucknall UDC.—Construction of 4,750 lin. yds. 6 in. to 21 in. concrete pipe sewers, concrete tube manholes, sewage pumping station and incidental works. E&S. Dep. £3 3s.

JANUARY 11.

*Watford RDC.—Development of Oxhey Playing Fields. C, Council Offices. Dep. £1 1s.

JANUARY 13.

Consett UDC.—New sewage disposal works at Knitsley, mess and store rooms, small pumping station, roads, etc. Eric G. Lediard, Chtd. Civil Engr., 4, Eldon-sq., Newcastle upon Tyne, 1. Dep. £3 3s.

JANUARY 16.

Aethwy RDC.—Construction of three miles stoneware sewers and sea outfall pipes, 6 in. to 9 in. dia., manholes and ancillary works at Brynsiencyn, Anglesey. Rofe & Rafferty, cons. engrs., 3, Victoria-st., SW1. Dep. £2 2s.

Newtown and Llanidloes RDC.—Laying of 50 yds. 4 in. and 555 yds. 3 in. dia. asbestos-cement water mains with screwed joints, specials and fittings, construction of 7,000 gal. covered reservoir in mass concrete and pumping station in brickwork, also assistance in provision of pumping and treatment plant at Manafon, Montgomeryshire. W. Herbert Bateman & Ptnrs., cons. engrs., 1, Chapel-row, Bath. Dep. £3 3s.

Penrhyn BC.—1,250 yds. 12 in. and 9 in. dia. spun concrete sewers with manholes, 750 yds. 10 in. dia. pumping main and sewage pumping station. Lemon & Blizzard, Council's cons. engrs., 1, Glenside, College-ave., Plymouth. Dep. £4 4s.

FEBRUARY 6.

Middlesex CC.—Construction in tunnel heading and trench of 2,500 lin. yds. 5 ft. 6 in. dia., 1,700 lin. yds. 5 ft. dia., 800 lin. yds. 4 ft. 6 in. dia., 2,000 lin. yds. 3 ft. 3 in. dia. and 200 lin. yds. 18 in. dia. sewers, with manholes and appurtenant works southwards from Deephams sewage works in the boroughs of Edmonton and Tottenham. J. D. & D. M. Watson, MMICE, Council's cons. engrs., 18, Queen Anne's-gate, SW1. Dep. £10 10s.

FEBRUARY 13.

Cork Harbour Commissioners.—Partial demolition and removal of 1,200 ft. of North Deep Water Quay, Penrose Quay and timber wharf known as Adler Jetty, on north side of River Lee at Cork and replacement partly by r.c. wharf backed by sheet steel piling retaining wall, 645 ft. long, and partly by steel sheet piled relieving platform wall, 620 ft. long. Harbour Engr., Custom House-st., Cork. Dep. £31 10s.

GENERAL BUILDING WORK

(LONDON)

Battersea.—SITE ACQUISITION.—The acquisition, clearance and partial development for housing purposes of a site at Ethelburga-st. is proposed by LCC Hsg. Com., who recommend that a compulsory purchase order be made, so far as is necessary.

Dartford.—FACTORY.—F. C. Hooper, managing director of Schweppes, Ltd., announced that a large site has been purchased in the Dartford area by the firm, who are seeking permission to erect a factory there.

Farnborough (Kent).—CHURCH AND HALL.—Plans have been prepared by W. N. B. George, FRIBA, 6, Queen Anne's-gate, SW1, for a new church and church hall in Leamington-ave. on the Davis and Crofton Park estate. The building, largely of load-bearing brick construction, will seat 270 people, and the stage has been designed so that it can be transformed into a chancel. The proposals include a kitchen, large committee room, projector room and cloakrooms, at a total estimated cost of about £15,000. An appeal to raise £4,000 to commence building has been launched by Farnborough Parish Church.

Hampstead.—SHOP PARADE.—Proposals have been made by BC for the erection of a new parade of up to 25 shops at Finchley-rd. to replace old houses between Fairfax-rd. and Swiss Cottage Underground Station. Over the shops will be three floors of flats and maisonettes, providing accommodation for about 50 families. The new parade is included in stage 2 of the £750,000 Harben-rd. development scheme, the final plans for which are expected to take about nine months to complete. The architects are Norman & Dawbarn (F), 5, Gower-st., WC1, and the QS are A. E. Thornton-Firkin & Ptnrs., 17, Fitzharding-st., W1.

Islington.—BLOCK MODERNISATION.—Plans have been approved by LCC Welfare Com. They provide for the modernisation of K block at Hillside to provide accommodation for 52 infirm women, at an estimated cost of £30,568.

Kennington.—COMMUNITY CENTRE.—An extension is planned to the Christ Church United Clubs opposite the main entrance to the Oval cricket ground. The cost will amount to £15,000, to which M of E is to contribute £3,250. Lord Halifax, Chancellor of Oxford University, and others associated with the project, are appealing for financial support. The Rev. E. L. Mascall, Christ Church United Clubs, Christ Church, Oxford, is hon. treasurer to the appeal. Plans prepared by Louis de Soissons, OBE, RA, SADG, MTPI (F)., who is hon. architect for the scheme.

Lambeth.—SCHOOL EQUIPMENT DEPOT.—A scheme has been approved by LCC Ed. Com. It provides for the erection of a new school equipment depot on the site of the former Frank Briant School, Upper Kennington-la., in a single-storey section, with garages for 18 vehicles and a multi-storey section spanning the transport yard. It will include workshops, stores, offices, committee rooms and a canteen, at an estimated cost of £223,000.

Westminster.—PLANNING APPROVALS.—No objection is offered by City C to reconstruction with additional height of building at Savoy-st., Savoy-pl. and Savoy-hill for Institution of Electrical Engineers. No objection is raised in principle to following major projects: Erection of offices and shops at 62-66 and 66a, Berwick-st. and 7-12, Noel-st.; office building at 92-94, Pall Mall (Carlton Club site); building for car parking at Buckingham Palace-rd./Elizabeth-st. site; office building at Romney-st./Tufton-st./Horseferry-rd./Marsham-st. site; and offices, showrooms and workrooms at 14, Gt. Marlborough-st.

Windsor.—ETON COLLEGE IMPROVEMENTS.—Large building schemes at Eton College are to start during the next few years and include a new boys' house and improvements to other houses. The new boys' house will be built in the meadow to the south-east of Warre House and, called "Farrer House," will contain 48 boys' rooms and be fitted with central heating throughout. Work on site has begun and completion is scheduled for 1957. The whole of the cost of this house will be borne by the Farrer Trustees. The first two houses to be modernised will be Baldwin's Bec and Corner House, and the cost of these improvements will also be paid by the Farrer Trustees.

Godolphin House will have a new top floor to the garden wing, new ablution rooms, kitchen and central heating throughout. For Holland House, new boys' rooms, ablution rooms and central heating in the passages are planned. These two houses will be heated from a single boiler house behind Holland House, and if this scheme proves a success other houses up to a maximum of eight will be heated from the same system. More boys' rooms and ablution rooms are to be added to Timbralls. Durnford House is to have a new kitchen and kitchen offices. Hodgson House is to incorporate one of the Old Christopher flats to increase accommodation. The plans have been prepared by Professor Sir William Holford, MA, FRIBA, & Ptnrs., Cambridge-terr., NW1.

Woolwich.—SCHOOL EXTENSIONS.—A scheme has been approved by LCC Ed. Com. for the erection of a dining-hall, kitchen and ancillary accommodation at Henwick county primary school.

(PROVINCIAL)

Abram.—UDC to allocate site on Bickershaw estate to Lancs CC for erection of new library.

Barrow-in-Furness.—British Cellophane, Ltd., to build factory at site near Sandscale Farm.

Bedford.—Modern 3-storey store to be built at corner of High-st. and Mill-st. for Alexandre, Ltd., Leeds.

Berkshire.—CC propose new court house, police houses and office at Merelands-rd., Wallingford.

Bristol.—Planning and Public Works Com. recommends purchase of 36 acres of land at Winash Farm for extension of Brislington trading estate.

Bristol.—Tenders due on December 17 for 15-storey block of flats at Barton Hill, and HC has called for report on further clearance in that and in other large areas.

Chester-le-Street.—UDC has approved site for three-form cty. sec. sch. County A, Court-la., Durham.

Colne Valley.—UDC seeks loan £16,637 for 12 houses at Corn Mill Field, Slaithwaite.

Coventry.—Scheme to provide permanent offices for City Architectural and Planning Dept. by extension of new council offices in Earl-st. approved in principle. Loan sanction £171,650 to be sought.

Daventry.—MoH&LG accepted RDC's proposals for replacing 294 unfit houses in next five years. Fifty new houses to be built 1956 to rehouse displaced tenants.

Dover.—Plans passed for new hotel to cater for Continental coach traffic at site fronting Camdencres. and New Townwall-st. for Watney, Combe, Reid & Co., Ltd. Building will be six storeys high and contain bars, restaurants, ballroom, banqueting hall and 42 bedrooms, etc. £60,000 est.

England (S.E. Region).—The South-East Metropolitan Regional Hospital Board will invite tenders within the next few months for the following work: Brighton General Hospital, extension to radiological department, approx. cost £12,000; Beckenham Hospital, extensions and adaptations to outpatients' department, £63,000; Darenth Park Colony, modernisation, phase 2, £48,000; Kent and Canterbury Hospital, extensions and adaptations to radiotherapy department, £10,000; West Kent General Hospital, Maidstone, new outpatients' department and pathological unit, £28,000; and Royal Victoria Hospital, Folkestone, improvements to operating theatre, £7,500.

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Mr. Charles Scott, FRIBA, is regional architect to the Board at 8-10, Hallam-st., London, W1.

Eston.—UDC approved plans for 20 houses at Teesville estate and tenders being obtained. Plans by N. C. Harrison, S, 246, Normanby-rd., South Bank-on-Tees.

Hythe.—M of E approved Brookhill sec. sch. for girls, £100,865 est., and adaptations at Harcourt sch. for sec. sch. purposes, £45,000 est.

Loftus.—UDC to negotiate prices for erection of flats at East Loftus. Council A, 41, Baxtergate, Whitby.

Lytham St. Annes.—15 acres of land and buildings at Lytham shipyard are to be developed as industrial estate by Clifton Estate.

Manchester.—Former registrar's office at corner Mosley-st./Princess-st. to be rebuilt as six-storey office block, £91,320 est.

Manchester.—TP approval for following: 22 det. houses and garages at Wilbraham-rd., Whitebrook-rd., Yew Tree-rd. and Caxton-rd., Fallowfield; 44 s.-d. houses and garages at Holliney-rd., Goldie-ave. and Gresby-ave., Peel Hall, Wythenshawe; and block of 48 flats with lock-up garages at rear at Wilmslow-rd. and Cromwell Range, Rusholme.

Newcastle-on-Tyne.—City Transport Com. to invite tenders for erection of houses at site of redundant Wingrove bus depot. City A, 18, Cloth-market.

Newcastle-on-Tyne.—MH approved following works proposed by Newcastle Hospital Board, Benfield-rd., Newcastle: Conversion of Homewood House, Hensingham, into 41-bed tuberculosis unit and construction of doctor's house and staff hostel, £37,850; proposed garages for regional blood transfusion services at Newcastle General Hospital, £13,230; and radiological wing at neurosurgical department at Newcastle General Hospital, £27,523. A: P. H. Knighton, MBE (A).

Northallerton.—RDC considering new estimates for proposed sewerage scheme. Several years ago the cost was estimated at £275,000.

Northampton.—New Army barracks, with cinema and gymnasium to be built at site of old Equitation School at Weedon. Demolition works in progress. £1 million est.

North Riding.—CC approved new school building programme for 1956 as follows: Instalment of Malton cty. mod. sch., to cost £192,170; instalment of Pickering cty. gram. and mod. sch., to cost £233,950; instalment of Wensleydale CM sch., to cost £224,600; an increase of £23,850 on original estimate of £151,280 accepted for Bedale CM sch.

North Riding.—EC approved plans for new cty. sch. at Brotton. A: Hadfield Cawkwell & Davidson (F), 1, High-court, Sheffield.

North Riding.—EC approved school building plans for next year as follows: Guisborough, £264,000; Malton, £192,170; Pickering, £234,000; Wensleydale, £46,700. Sketch plans for two last approved. County A, County Hall, Northallerton.

North Riding.—M of E has brought forward from reserve to main programme, 1956-7, second instalment of Cleveland Tech. Col., Redcar, £186,000 est. Cty. Sch. A, County Hall, Northallerton.

North Shields.—New operating theatre block to be built at North Shields Hospital. A: P. H. Knighton (A). "Dunira," Osborne-rd., Newcastle.

North Shields.—Tasker & Child (F), New Bridge-st., Newcastle, are architects for 54 houses.

Peterlee.—North-Eastern Trading Estates, Ltd., Team Valley, Gateshead, to build 25,000 sq. ft. factory for K.X. Lamps, Ltd., and contract expected shortly. A: Sir W. Holford & Ptnr., 80, Bedford-st. South, Liverpool.

Peterlee.—North Eastern Trading Estates, Team Valley, Gateshead, will receive tenders for new factory with 20,000 square feet of floor space.

Plymouth.—James Cook & Co. (Chard), Ltd., shirt collar makers, to build factory on 3½-acre site at Ernesettle.—George H. Hughes, Ltd. (Engineers), Birmingham, intend establishing a factory employing 50 people at Prince Rock.

Plymouth.—Tenders are being invited for restoration of Grand Theatre, damaged by enemy action, £50,000 est. Work expected to start next April.

Plymouth.—HC propose 23 flats at Barbican area of Woolster-st. and Stillman-st., £50,000 est. City A.

Retford.—TP consent to L. E. Beevers for erection of 28 dwellings at junction Spital-hill/Lidgett-la., East Retford.

Richmond (Yorks).—TC to apply for a loan of £104,668 for 76 houses at Cutpurse-la. estate. Boro' E.

Ross-on-Wye.—30 houses to be built at Berryfields and 64 at Walford-rd. site for UDC.

Rotherham.—EC to apply for loans of £51,568 for new Broom-la. cty. prim. sch. and £106,175 for new Roughwood cty. prim. sch.

Rotherham.—TC approved erection of child welfare centre at Kimberworth Park estate.—Herringthorpe P.C. Council proposes erection of new church at Sitwell Park-rd. St. Stephens P.C. Council proposes erection of church hall at St. Leonards-rd.

Rotherham.—HC proposes further 100 houses at Kimberworth Park estate.

Runcorn.—Correction.—We regret that it was inadvertently stated in this column on November 25 that plans for erection of light industrial buildings at site south of Boston-ave. had been approved by UDC. We are now informed by Mr. H. H. Humphrey, MIMunE, the Council's Engr. and Surveyor, that the plans were not approved.

Scarborough.—TC to erect 55 one-bedroom flats at sites at Eastfield and in the town.

Scarborough.—TC has approved sketch plans for erection of block of shops with maisonettes above in St. Thomas-st. A: O. Garry (A), 15, Robert Adam-st., W1.

Seaham.—UDC approved proposals by CC for erection of infants', junior and nursery schools at Parkside.

Sedgefield (Durham).—RDC received approval for 14 houses and bungalows at Bishop Middleham to be built by direct labour, £17,113 est. Housing A: R. Dobson, Council Offices.—Plans approved by RDC for village hall at Trimdon.

Shaftesbury.—RDC to build 40 new houses at Tomlins-la., Gillingham. £68,909 est.

Sheffield.—Governors of Sheffield United Hospitals Board approved erection of radiotherapy centre at Glossop-rd., £100,000 est.; conversion of rehabilitation centre at Whiteley Woods, £50,000 est.; and alterations to Royal Infirmary, £10,000 est.

Shrewsbury.—TC proposes construction of second part of new Cattle Market at Harlescott.

Skelmersdale.—UDC Surveyor to prepare plans for further houses at Manor House Farm.

Sligo.—BC approved sketch plans for 36 houses proposed at Cemetery-rd. site. A. G. Jennings, cons. engr.

Sodbury.—RDC to build following houses in 1956-7 programme: 32 at Yate Aerodrome, 26 at Frampton Cotterell, 20 at Stoke Gifford, 10 at Filton, 6 at Westerleigh and 4 (for old people) at Chipping Sodbury.

South Shields.—EC approved revised sketch plans for second instalment of proposed Marine and Technical College. A: Meade Taylor & Wilson (A), 17, Sheffield-ter., W8.—G. R. Smith & Ptnrs., 7, Charlotte-ter., South Shields, have prepared plans for 20 semi-detached houses in Mortimer-rd. for Henderson Bros. (1936), Ltd., bldrs., and contrs., Smith-st., Tyne Dock.—Maunsell Posford & Pavry, cons. engrs., London, have prepared plans for platers' shop at Brigham and Cowans' shiprepairing yard.—EC approved plans by Page, Son & Hill (F), 75, King-st., South Shields, for additions to Cleadon Park sec. sch.—Revised plans for proposed "White Horse" inn, Quarry-la., for Duncan & Daglish, Ltd., have been approved. A: Page, Son & Hill.—Post Office to erect telephone exchange near Claypath-la.

South Shields.—Hospital Management Com. recommends Newcastle Hospital Board to approve new theatre suite at South Shields General Hospital, £14,000 est.

South Shields.—J. Rewell & Sons, Ltd., Gateshead, are applying for transfer of licence of Imperial Hotel at Harton to proposed hotel at another site.

Stockport.—J. McFarlane & Co., Ltd., Ancoats, Manchester, propose erection of new factory at Brinnington estate.

Stockton-on-Tees.—TC to negotiate for purchase of 39 acres of housing land adjoining new Hardwick housing estate. Boro' E, Victoria-bldgs.

Stockton-on-Tees.—Cordingley & McIntyre (F), The College, Durham, are architects for new St. Chad's Church on Roseworth estate.

Sunderland.—EC adopted plan for building comprehensive schools, £1,000,000 est.

Sunderland.—Planning Com. approved plans for junior and infant schools on Farringdon estate, and community centre at Hill View. Boro' A, Grange House, Stockton-rd.

Sunderland.—TC obtaining tenders for supply and erection of structural steelwork for new premises at old market site for firms who are to be displaced by slum clearance. Plans by Boro' E, 27, Fawcett-st., Sunderland.

Walbottle (Northumberland).—New sec. sch., gram. and tech. schs. to be built for County EC, County A: County Hall, Newcastle.

Walsall.—TC to lease site at Fryers-rd., Bloxwich, to Hancox & Plimmer, 73a, Station-st., Bloxwich, for erection of new factory.

Warwickshire.—EC seeks Ministry approval for erection of Nuneaton Camp Hill cty. infts.' sch., £44,500 est., and proposes following in 1956 programme:—Additional accommodation at Hurley cty. sch., £10,650 est.; at Nuneaton high sch., £10,750 est.; and at Temple Grafton C of E sch., £11,500 est.

Weymouth.—Preliminary site works for new railway station have started and construction is expected to begin early next year. Contract not yet let.

Wigan.—New prison for 300 men to be built at Hindley Field for Prison Commissioners.

TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government Departments*.

Birmingham.—New police station at Bradford-st. and Broom-st., for TC: *F. Deeley, Ltd., 210, High-st., Harborne, £118,689.

Bolton.—New hotel at Crompton-way/Tonge Moor-rd., for Peter Walker (Warrington), Ltd.: *Wm. Gornall & Sons, Ltd., Ellesmere-st., Bolton.

Brierfield.—20 flats at Humphrey-st. and Cross-st., for UDC: *Hawthorne Bros., Ltd., 16, Balmoral-ave., Clitheroe, £21,433.

Brierley Hill.—New central depot, for UDC: *Percy Cox, Ltd., £51,573.

Burton Latimer.—16 houses at Finedon-rd. estate, for UDC: *Brown & Stoke Bros., Ltd., 106, Wharf-rd., Higham Ferrers, £17,782.

Cheltenham.—Six shops, 4 flats and 12 maisonettes, with service roads and 8 garages, at Lynworth estate, for BC. BE, G. Gould Marsland, MBE, BSc, MInstCE, MTPI, Municipal Offices, PO Box 12: *F. & B. B. Griffiths, Ltd., 2, Royal-cres., £41,884.

Coventry.—Rebuilding of Corley residential sch., for EC: *H. Clarke & Sons, Ltd., 48, Coronation-rd., Coventry, £132,252.

Darlington.—34 houses on Branksome estate, for TC: *Boddy & Bell, Thomas-st., Darlington, £48,201 (subject to Ministry approval).

Eastbourne.—Ambulance station at junction of Bourne-st. and Dursley-rd., for CBC. BE, 2-4, Saffrons-rd.: *J. G. Robinson & Sons, Ltd., 6, Cornfield-ter. £16,174.

Enfield.—(1) 128 houses and 18 flats at Manor Farm estate, and (2) 36 houses and 18 flats at Grove-rd. West for UDC: *Townsend & Collins, Ltd., Enfield (1) £223,365 and (2) £91,725 (subject to approval of MH&LG).

Exeter.—Block of 6 flats, 6 maisonettes and 12 garages at Magdalen-rd., for City C. City A, Municipal Offices: *Soper & Ayres, Magdalen-st., £19,180.

Exeter.—Erection of Beacon Heath infants' sch. off Summer-la., Whipton, for City C. City A, Municipal Offices. QS: Randall Vining & Saunders, Exeter: *Sidney Pratt (Builders), Ltd., Wynard's Works, Old Rydon-la., £75,815.

Farnworth.—74 houses at Plodder-la. South No. 2 site, for BC: *E. F. Davis, Ltd., Bank-st., Farnworth.

Gateshead.—Mission hall and Sunday sch. at Duke-st., for Vine-st. Mission: *J. Tarran, Ltd., Perth: 3 pairs of s.d. houses at Chowdene: *J. Burnett & Son, Birtley, Durham.

Glasgow.—246 houses at Castlemilk estate, for City C: ‡Atholl Houses, £378,869.

Gourock.—68 houses at Shore-st. A: Crawford & Neill (F/A), 133, Cathcart-st., Greenock. QS: D.Y. Macdonald & Ptnrs., FSI, Smith-la., Greenock: *Dougall & Co., Ltd., Glasgow-rd., Dumbarton, £124,412.

Hereford.—Attested cattle shedding at cattle market: *Frank H. Dale, Leominster, £33,424.

Hitchin.—32 houses and 36 flats in precast concrete construction at Westmill estate, for UDC. S: A. King, ARICS: *Wates, Ltd., London-rd., Norbury, S.W.16, £94,985.

Hove.—Twelve flats at Knoll-cl. for BC. BE&S, Town Hall: *Stone & Son (Builders), Ltd., 51, Westway, Hove, 4, £11,701.

Kettering.—New licensed premises at Hallwood-rd. site, for P. Phipps & Co., Ltd.: *Underwood & Weston, Ltd., 19, Ladys-la., Northampton.

Kirkcaldy.—New crematorium for Fifeshire at Dunmocker Park. A: Sanger & Rothwell (F), York-st., Oldham (£80,000 scheme): *George Scott & Son, Ltd., 2, Victoria-rd., Kirkcaldy, and John Scott & Co., Ltd., 97, Campbell-st., Dunfermline.

Liverpool.—122 dwellings at Field-st., for City C: ‡Direct labour, £217,200. 13 houses at Saunby-st., Garston: ‡Scarisbrook Contractors & Haulage, Ltd., 81, Dale-st., Liverpool 2, £26,374 (subject to approval of MoH and LG).

¶London (Air Ministry).—Works contracts to value of £500 or over for week ended December 12:—

Artificers' work: G. H. Miller & Co., Ltd., Sherdan Works, Thorpe-rd., Forest Gate, E7. *Heating and ventilating services*: E. L. Maiden, Ltd., 27, Fitzroy-sq., W1. *Resurfacing work*: O. J. Elliott & Co., Ltd., 339, Badminton-rd., Winterbourne, Bristol; Constable Hart & Co., Lion House, Richmond; North Lonsdale, Tarmacadam, Albion Works, Sheffield. *Building work*: R. Carse & Son, Ltd., 15, Prospect-pl., Amble; M. A. Boswell (Contrs.), Ltd., 124, Compton-rd., Wolverhampton; Gee, Walker & Slater, Ltd., Coychurch-rd., Bridgend, Glam.; A. Roberts & Co., Ltd., 79, Eccleston-sq., SW1. *Foundation work on hangar*: Sir Alfred McAlpine & Sons, Ltd., Hooton, Little Sutton, Wirral, Ches.

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London, EC.—Erection of 16-storey building to be known as Fountain House at site of 125-135, Fenchurch-st., for City of London Real Property Co., Ltd., 16, Mark-la., EC3. Co's A: W. H. Rogers (A) Cons. A: Sir Howard Robertson, ARA (P,PPRIBA): *Trollope & Colls, Ltd., 41, Gt. Queen-st., WC2, £750,000 est.

¶London (MoW).—Contracts placed in week ending December 3:—

Caithness-shire: Girnigoe-st., Wick, erection of TOB. *Alex Hall & Son (Bldrs.), Ltd., Granitehill-rd., Northfield, Aberdeen. *Dorset*: PO Radio Station, Dorchester, extension to B station, *Ricardo, Ltd., Fordington, Dorchester. *Herefordshire*: P.O. Supplies Depot, Holmer-rd., Hereford, internal decorations, *Goodwin Greenway & Co., Barton-rd., Hereford. *Lancashire*: M.O.S. housing estate, Kirkby, Liverpool, lock-up garages, *W. A. Gale, Ltd., 151, Linacre-la., Bootle, Liverpool, 20. Failsworth, erection of Crown building, *J. Dickinson & Co. (Bolton), Ltd., Fairclough-st., Bolton, Lancs. *London*: General Registry, Somerset House, WC2, builder's work in connection with alterations to lift, *John Garlick (1920), Ltd., 147, King's-rd., SW3. 59/67, Gresham-st., EC2, second, third and fourth floor suite occupational services, *Holland & Hannen and Cubitts, Ltd., 258, Gray's Inn-rd., WC1. Clive House, Petty France, SW1, internal decorations, *Dicol Decorators, 5, Petty France, SW1. Shed 31, Government Buildings, Kidbrooke, SE3, internal decorations, *J. Scott Fenn, Ltd., 42, Calderwood-st., Woolwich, SE18. *Middlesex*: Sunbury, extension to TE, *M. J. Gleeson (Contrs.), Haredon House, London-rd., North Cheam, Surrey. *Nottinghamshire*: MOT, Castlegate House, reinstatement of war damage, *T. Long & Sons, Ltd., 25, Nottingham-rd., Nottingham. *Shropshire*: P.O. Engrg. Depot, Shrewsbury, stage I, *Spicers (Bldrs.), Ltd., Omberley-rd., Worcester. *Staffordshire*: J.O.B., Bath-ave., Wolverhampton, erection of new Crown building, *Sir Alfred McAlpine & Son, Ltd., Waterloo-rd., Wolverhampton. *Surrey*: Govt. Buildings, Epsom-rd., Guildford, internal and external painting, *C. & T. Painters, Ltd., Mordaunt-rd., Harlesden, NW10. *Yorkshire*: HPO, Shipley, alterations and adaptations, *J. Totty & Sons, Ltd., Stanacre-pl., Bradford.

¶London (War Dept.).—Works contracts placed in week ended December 3:—

Cheshire: Miscellaneous, *G. Fisher (Fallowfield), Ltd., Manchester. *Dorset*: Building work, *Frank Wyatt & Son, Ltd., Poole. *Durham*: Miscellaneous, *W. Wigham & Son, Sunderland. *Essex*: Building work, *W. & C. French, Ltd., Buckhurst Hill. *Hampshire*: Roadwork, *W. & J. Glossop, Ltd., SW18. Painting and decorating, *F. Labbett & Sons, Ltd., Nottingham. *Kent*: Painting and decorating, *George Jones & Son (Contrs.), Ltd., W8. *Lancashire*: Miscellaneous, *Daniel Cooper, Ltd., Warrington. *Leicestershire*: Roadwork, *Norman W. Dunn & Co., Ltd., Warwick. *London*: Roofing, *Helliwell & Co., Ltd., SW1. Building work, *G. H. Miller & Co., Ltd., E7, *John Willmott & Sons (Hornsey), Ltd., N8. *Merioneth*: Flooring, *Jones Watkin & Son, Ltd., Bangor, roadwork, *Trinidad Lake Asphalt Co. (North Western), Ltd., Liverpool, 2. *Middlesex*: Heating installation, *Edward Deane & Beal, Ltd., London. *Midlothian*: Building work, *Hugh Raitt & Sons, Musselburgh. *Northamptonshire*: Painting and decorating, *T. E. Cundy & Son, Ltd., Leicester. *Nottinghamshire*: Painting and decorating, *T. E. Cundy & Son, Ltd., Leicester. *Somerset*: Building work, *J. Durlev & Sons, Ltd., Weybridge. *Yorkshire*: Painting and decorating, *Reid Bros., Carlisle.

Malvern.—(1) Erection of 22 "C" type houses at Pound Bank estate; and (2) 22 "C" type houses at Hilton-rd. estate for UDC. S & Water E: C. C. Judson, The Council House. (1) *M. Wilesmith & Son, Malvern Link; (2) *F. J. Hill & Sons, Malvern Link.

Manchester.—69 dwellings at Palmerston-st., New Cross, 194 dwellings at Royle Green estate, Northenden, and 16 additional houses at Ridgway-st., Ancoats, for TC: *Direct labour.—12 additional houses at Langley estate: *A. Locke (1940), Ltd., Urmston.

Manchester.—Works, for City C: Erection of Blackley Crematorium, *G. & J. Seddon, Ltd., Little Hulton, nr. Bolton; new swimming baths at Wythenshawe, *Fred Mitchell & Son, Ltd., River-pl., City-rd., Manchester.

Middlesbrough.—28 houses at Pallister Park estate, for TC. Boro' E: *H. Halliman, Ltd., Arlington-rd., Middlesbrough.

Morecambe and Heysham.—8 flats and 1 house at Branksome-dr. estate, for TC: *Heysham Building Co., Middleton-rd., Morecambe.

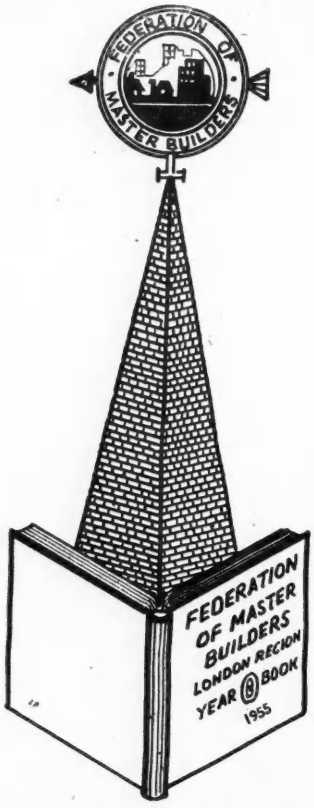
Mynyddislwyn.—34 houses at Hill View site for UDC. F&S: T. E. Jones, AMIMunE, MRSI: *Davies, Middleton & Davies, Ltd., Caerphilly-rd., Cardiff, £53,000.

Newcastle-on-Tyne.—Two five-storey blocks of 144 flats each at Fawdon housing estate and Kenton North housing estate, for City C: ‡Geo. Wimpey & Co., Ltd., Newcastle, £500,000.

Newmarket.—24 bungalows at Southfields-cl. for UDC. A: P. D. Lees, Council Offices, Severals House. QS: Crump & Ptnrs:

J. Edmondson & Son, Newmarket	£34,046
Johnson & Bailey, Ltd., Cambridge	33,454
William Sindall, Ltd., Cambridge	32,998
P. G. Rawlings, Barrow, nr. Bury St. Edmunds	31,231
W. R. Southgate, Newmarket	30,732
Law Bros., Littleport, Cambs	30,095
Kerridge (Cambridge), Ltd., Cambridge	29,949
*H. A. Human, 3, Station-rd., Soham, Cambs	29,145

Northampton.—66 houses at King's Heath, for TC: (38) ‡T. Wilson & Son, Ltd., £54,864; (28) ‡Clements Bros. (Northampton), Ltd., £43,907.



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Northampton.—New C of E church at Kings Heath estate: *H. Martin, Ltd., Thenford-st.

Nottingham.—ESN girls' sch., Perry-rd., for EC: *A. G. Clower, Ltd., Mansfield-rd., Daybrook.

Paisley.—82 houses and 16 shops at Canal-st., George-st. E&S: J. A. McGregor, AMICE, MIMunE. MTPI, Moss-st., Paisley: *Messrs. Charles Johnston & Co., Ltd., St. James-st.

Reading.—Westwood sec. girls' sch. at Tilehurst, for EC: *Boyd & Murley, Ltd., Reading, £188,132.

Scottish Special Housing Assn.—Contracts placed, October 19 to November 23.—(1) Site servicing: Larkfield, Greenock, 628 various, *John R. Stutt, Ltd., Potterhill, Paisley, layout of open spaces. Dovecroft, Kirkcudbright, 6 traditional, *A. J. Hastings, 18-20, St. Mary-st., Kirkcudbright, landscaping. Northfield, Aberdeen, 60 flats, *Superintendent of Parks, 15, Bon-Accord-cres., Aberdeen, levelling ground and sowing grass. Larkfield, Greenock, 6 shops, 6 trad. flats, *Baird Bros., Ltd., Brown-st., Port Glasgow, site servicing. (2) House erection: Grainger-st., Lochgelly, 48 Cruden flats, *SS Electricity Board, East Port, Dunfermline, electric. Rigside, Douglas, 52 trad., Taylor's Path, Douglas, 64 timber, *T. P. Marwick & Co., Sighthill Industrial Estate, Edinburgh, fencing. Valley-gdns., Kirkcaldy, 80 flats, *Barnet & Morton, High-st., Kirkcaldy, fencing. Niddrie Marischal, 80 Cruden, *City & Royal Burgh of Edinburgh, privet hedging. Toryglen, Glasgow, 60 flats (10-storey), *Express Lift Co., Abbey Works, Northampton, passenger lift; *Jas. Kilpatrick & Son, Ltd., River Cart-walk, Paisley, mains elec. installation. Northwood, Clackmannan, 210 various, *Jas. Strang & Son, 48, Bellevue, Maddiston, boundary fencing. Mains of Fintry, Dundee, 168 N/F flats, *Lindsay & Scott, Ltd., 26, Bank-st., Dundee, glazier. Neilsland-rd., Hamilton, 62 Weir brick, *Jas. Strang & Son, Polmont, boundary fencing. Falside, Bathgate, 44 Blackburn, *Blackburn (Dumbarton), Ltd., Castle-rd., Dumbarton, all trades. Toryglen, Glasgow, 60 flats, *Pirie & Co. (Paisley), Ltd., 82-84, New Sneddon-st., Paisley, unfinished asphalt. Drumachlie, Brechin, 76 trad., *Barnet & Morton, High-st., Kirkcaldy, fencing (intermediate). Imperial-drive, Airdrie, 56 Blackburn, *Scottish Gas Board, Hill-st., Airdrie, gas services; *SS Electricity Board, Hamilton, elec. services. Faifley, Clydebank, 2 Miller (Police), Bellsmyre, Dumbarton, 256 flats, *SS Electricity Board, 206, St. Vincent-st., Glasgow, elec. connections. Knock Farm, Renfrew, 26 trad., *Chisholm & McConachie, Grangehill Works, Polmont, handrails. Toryglen, Glasgow, 60 flats, *Durastic, Ltd., 110, John-st., Glasgow, C1, asphalt work. Work undertaken by SSHA Direct Labour Organisation: (1) Site servicing: Telford-rd., Edinburgh, 54 N/F, 1st and 2nd stage. Bellsmyre, Dumbarton, 234 Wimpey flats, open spaces, access footpaths. Bellsmyre, Dumbarton, 256 flats, site servicing. Watling-st. and Muirhouse, Motherwell, 274 various, open spaces treatment. (2) House erection: Cadder-rd., Glasgow, 72 Weir Quality, Toryglen, Glasgow, 177 Weir Quality, Rosshall, Glasgow, 194 Weir Quality, replacement of chimney boxes by concrete copes and fireclay cans; Borestone, Stirling, 90 No-fines, all trades. Maintenance: Pathhead and West Polquhirter, New Cumnock, 15 Weir Paragon, *Wm. Black, The Castle, New Cumnock, painter. Hilton-rd., Alloa, *SSHA, Ltd. (DLO), remedial work to existing wall.

Sheffield.—250 garages at Greenhill-Bradway housing estate, for City C: ‡H. R. Smith (Contrs.), Ltd., £33,201.

Sheffield.—New licensed premises at Lowedges-rd., Greenhill, for Duncan Gilmour & Co., Ltd.: *Thorntons (Sheffield), Ltd., 66, Rural-la., Wadsley, Sheffield, 6.—New library for Senate, University of Sheffield: *W. J. Simms, Sons & Cooke, Ltd., Nottingham.

Southport.—Conversion of Hesketh Park Hydro for Liverpool Regional Hospital Board: *Brook Constructions (Liverpool), Ltd., £44,924 (subject to MoH approval)

South Shields.—Further flats at old Beehive Hotel site, for TC: ‡Carruthers & Sons (extension of existing contract), £13,302.

Stockton-on-Tees.—191 houses, west of Fairfield-rd., for TC. Boro' A: T. C. Hartley (A), 28, The Square: *Moore & Cartwright, High-st., Norton, Stockton, £262,830.

Stockton-on-Tees.—Construction of roads and sewers on the new Hardwick housing estate for TC: *George Wimpey & Co., Ltd., Orchard House, Newcastle-on-Tyne, £742,233.

Sunderland.—Factory additions for Lamson Paragon Co., mnfg. stationers, etc. A: S. W. Milburn & Prtnrs (F), 9, Esplanade, Sunderland: *Gordon Durham & Co., East Boldon, Durham.

Tynemouth.—New Bear Back outfall sewer, for TC. Boro' E: D. M. O'Herlihy, 16, Northumberland-sq., North Shields: *George Dew, Ltd., Oldham, Lancs, £73,000 (subject to Ministry approval).

Wallasey.—30 houses and 9 flats at Site P6 extension: *J. L. Rawsthorne, Ltd., Belvedere Sawmills, Wallasey, £54,122.

West Hartlepool.—16 houses, Owton Manor estate, for TC. Boro' A: A. G. Sinclair (A): *Direct labour.

Worcester.—50 " New Tradition " houses of precast concrete construction at Warndon estate, for City C. City E&S: T. S. Williams, AMICE, MIMunE, AMIWE: *Wates, Ltd., London-rd., Norbury, SW16, £69,951.

Workington.—Training centre, for Workington Iron and Steel Co., Ltd.: *John Laing & Sons, Dalston-rd., Carlisle.

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